

No. 4.

HB-451
2
HB-452

January 21, 1972

Richard Wheatley, Esquire
University Bank
Post Office Box 1067
Stillwater, Oklahoma 74074

Re: ✓ HB 451 - Uniform Foreign Money - Judgement
Recognition Act
HB 452 - Uniform Enforcement of Foreign
Judgements Act

Dear Mr. Wheatley:

In the First Session of the Seventh Alaska Legislature (1971), I introduced, and the House passed, the subject bills. They are now in the Senate Judiciary Committee. At the time of their introduction, I knew that both uniform acts had been adopted in Oklahoma. Although Sen. Robert H. Ziegler, Chairman of the Senate Judiciary Committee, has agreed that his committee will consider these bills, you will appreciate that they are not matters about which great interest and enthusiasm are likely to be generated. Of course, I think they would be useful additions to Alaska law.

Because of your association with the National Conference, and because of your experience with such matters in Oklahoma, I am requesting that, in the course of your visit with us later this month, you discuss these two bills with Senator Ziegler and me, and, possibly the Senate Judiciary Committee. I am enclosing copies of both bills as passed in the House.

Please accept my very personal thanks for your assistance.

Sincerely,

William J. Moran

Enclosures

WJM/dsg

File
HB 444

January 18, 1972

Mr. John N. Asplund, Chairman
Greater Anchorage Area Borough
3500 Tudor Road
Anchorage, Alaska 99507

Re: SB 174 and HB 444 - Repayment of Profit
from Sale of School Bonds

Dear John:

You are certainly familiar with the subject bills for the repayment to the Greater Anchorage Borough of the really unconscionable profits realized by the State on those bonds purchased from the Borough for re-sale. SB 174 was introduced in the Senate by Senators Croft, Josephson, and Thomas; HB 444 was introduced in the House by me with the co-sponsorship of the other members from Anchorage.

I enclose a copy of the form of the Fiscal Note furnished to the Senate Finance Committee, the memorandum attached thereto reflecting that the profit to the state on the sale was \$836,263. It is this sum which we seek to pay to the Borough. I am also happy to note that these proposals are finally receiving some attention in Senate Finance.

I am sending a copy of this letter and its enclosure to Joe Montgomery.

I am also herewith sending my personal greetings to both of you.

Sincerely,

William J. Moran

Enclosure

cc: Mr. Montgomery w/enclosure

The Legislature of the State of Alaska
FISCAL NOTE
Second Session - Seventh State Legislature

I. REQUEST

Bill Identification: Senate Bill No. 174 and House Bill No. 444
 Title: Repayment of profits on bonds purchased by the State.
 Requested by: Legislative Finance Date: 1-10-72
 Return Date Requested: 1-18-72
 Agency: Department of Revenue Program: Fiscal Services

II. FISCAL DETAIL

Budget Request Unit(s) Affected: _____

A. EXPENDITURES: (Thousands of dollars)

OBJECT	FY 72	FY 73	FY 74	FY 75	FY 76	FY 77
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL	-0-					

B. FUNDING: (Thousands of dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						

C. POSITIONS:

PERMANENT/TEMPORARY	0 /	/	/	/	/	/
MAN MONTHS (P./T.)	0 /	/	/	/	/	/

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

See Attached Memorandum indicating details of sales price received state, sum paid by state and excess in amount of \$836,263.00 that would be paid to the Greater Anchorage Borough as the issuing political subdivision of bonds purchased by the state and sold subsequently at a profit.

IV. ATTACHMENTS

V. DATE: January 17, 1972 PREPARED BY: 

Deputy Commissioner
Department of Revenue

Original: Legislative Finance
 cc: Budget and Management
Prime Sponsor (First Legislator Named)

STATE
OF ALASKA

MEMORANDUM

TO: R. D. Stevenson
Deputy Commissioner of Revenue
Department of Revenue

DATE: January 14, 1972

FROM:

John M. Daugherty
John M. Daugherty
Director, Treasury Division
Department of RevenueSUBJECT: Senate Bill 174 & House Bill 444-
Excess - from sales of the
Greater Anchorage Borough
Bonds, par value \$13,350,000

June 26, 1970

The State purchased \$13,350,000 par value bonds
at a cost of \$12,703,818.00

Total proceeds from Bond sales of October 70 and September 71:

Sold \$13,350,000 at a price of \$13,540,081.00
Less Cost of Bonds to State (12,703,818.00)

Net excess from sale - sale price over original

cost \$ 836,263.00

NFPA NO.
501C

1970

ANSI
A119.2

1970

STANDARD FOR
RECREATIONAL VEHICLES

**Travel Trailers, Camping Trailers, Truck Campers,
Motor Homes**

**Installation of Plumbing, Heating, and
Electrical Systems**

1972

\$2.00

Copyright © 1970

National Fire Protection Association

60 Batterymarch St., Boston, Mass. 02110

Recreational Vehicle Institute

2720 Des Plaines Ave., Des Plaines, Ill. 60018

Trailer Coach Association

3855 E. La Palma Drive, Anaheim, Calif. 92806

National Fire Protection Association

The National Fire Protection Association (NFPA) is a non-profit technical and educational organization to promote the science and improve the methods of fire protection. Organized in 1896, the Association has a broad-scale standards-making program to aid in its objective to reduce loss of life and destruction of property by fire. The Association publishes the standards developed under its aegis in pamphlet editions (such as this) and in what is known as the National Fire Codes (a ten-volume compilation annually updated, totaling approximately 8,000 pages). For full information about the Association and for a list of its publications, write to the Association's Headquarters.

Recreational Vehicle Institute

The Recreational Vehicle Institute is a national trade association exclusively serving the recreational vehicle industry. Its manufacturing members come from throughout the U.S.A. and produce travel trailers, truck campers, camping trailers and motor homes. The Institute sponsors and directs recreational vehicle trade shows, provides information to the consumer and the trade, issues news releases concerning industry developments and has a Standards Department which assists in the development of such national codes as this Standard. Compliance with this Standard is a mandatory requirement for membership in the RVI for those building recreational vehicles.

Trailer Coach Association

The Trailer Coach Association represents the manufacturers of mobile homes and recreational vehicles, dealers and suppliers in the Western States while drawing its members from all sections of the country. Founded in 1936, the Association sponsors mobile home and recreational vehicle shows in the major western cities and has research programs dedicated to advance the proper use of mobile homes and recreational vehicles. It has a Standards Department which works with the enforcing officials in the various Western States to encourage compliance with the recommendations contained in this standard. The Trailer Coach Association currently has a staff of 18 and a membership of 742.

American National Standards Institute

The American National Standards Institute (ANSI) is the national coordinating institution for voluntary standardization in the U.S.A. through which organizations concerned with standardization may cooperate in recognizing, establishing and improving standards in this country. Approval of a standard by the Institute is based on a consensus of those essentially concerned with its scope and provisions. The Institute has a Member Body Council, a Consumer Council, and a Company Member Council. The Member Body Council is composed of non-profit technical, professional, scientific, trade, or other membership associates, societies, or organizations which are of national scope and recognition. The National Fire Protection Association, the Recreational Vehicle Institute, and the Trailer Coach Association are Member Bodies of the ANSI.

Copyright and Republishing Rights

This publication is copyrighted © by the National Fire Protection Association, the Recreational Vehicle Institute, and the Trailer Coach Association. Permission is granted to republish in full the material herein in laws, ordinances, regulations, administrative orders or similar documents issued by public authorities. All others desiring permission to reproduce this material in whole or in part shall consult the National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110, The Recreational Vehicle Institute, 2729 Des Plaines Ave., Des Plaines, Ill. 60018, and the Trailer Coach Association, 3855 E. La Palma Drive, Anaheim, California 92806.

Standard for Recreational Vehicles
(Travel Trailers, Camping Trailers, Truck Campers, Motor Homes)
Installation of Plumbing, Heating and
Electrical Systems

Proposed American National Standard A119.2 — 1970

NFPA No. 501C — 1970

This Edition of Standard for Recreational Vehicles

This Standard has been developed by the American National Standards Committee on Mobile Homes and Recreational Vehicles, sponsored jointly by the Mobile Homes Manufacturing Association, the National Fire Protection Association, the Recreational Vehicle Institute and the Trailer Coach Association. Personnel of the Committee are listed on pages 2 through 5.

This edition of the Standard was adopted as an NFPA Standard at the 74th Annual Meeting of the National Fire Protection Association on May 20, 1970, in Toronto, Canada. It has been approved by the Recreational Vehicle Institute and by the Trailer Coach Association. The Standard, in its present form, is being submitted to the American National Standards Institute for their approval. At such time as the Institute has opportunity to act upon this submittal, this Standard will be reissued, assuming such approval, as an American National Standard. Its present designation, as Proposed ANSI A119.2-1970, is to clearly indicate that the intent of this Standard is to replace the existing American Standard for Installations of Plumbing, Heating and Electrical Systems in Travel Trailers (A119.2-1963).

This edition of the Standard for Recreational Vehicles also replaces the coverage of travel trailers previously appearing in the 1964 Edition of the NFPA Standard for Fire Prevention and Fire Protection in Mobile Homes and Travel Trailers (NFPA No. 501B-1964). Attention is invited to the Standard for Mobile Homes (ANSI A119.1-1969; NFPA No. 501B-1968) for those concerned with this type of equipment.

Committee on Mobile Homes and Recreational Vehicles
An American National Standards Institute Committee (A119)

Corrected to May 20, 1970

L. E. Henry, Chairman,
 Southern California Gas Company, Box 3249, Terminal Annex, Los Angeles, Calif. 90084
 (rep. American Gas Association)

George H. Tryon (SFPE)†, Administrative Secretary
 National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110

Francis E. Greenleaf,† Assistant Secretary,
 Standards Dir., Trailer Coach Assn., 3855 E. La Palma Ave., Anaheim, Calif. 92806

Philip N. Shrake,‡ Assistant Secretary,
 Standards Dir., Recreational Vehicle Institute, Inc.
 2720 Des Plaines Ave., Des Plaines, Ill. 60018

Henry Omson,† Assistant Secretary,
 Standards Dir., Mobile Homes Manufacturers Association
 6650 North Northwest Highway, Chicago, Ill. 60631.

- | | |
|---|--|
| Leroy V. Abbott, Insurance Co. of North America | R. E. Klingler, Recreational Vehicle Institute, Inc. |
| Delevan J. Arnold, Recreational Vehicle Institute, Inc. | Arthur Kretschman, Gas Appliance Manufacturers Association |
| T. R. Arnold, The Craftsmen's Guild | Norman Latter, International Assn. of Plumbing & Mechanical Officials |
| Russell R. Bahr, State of California, Division of Building & Housing Standards | Gordon B. Lemke, American Mutual Insurance Alliance |
| Louis C. Bell, Trailer Coach Association | W. P. Marshall, Recreational Vehicle Institute, Inc. |
| Roy J. Boston, Conference of State Sanitary Engineers | John Martin, Mobile Homes Manufacturers Association |
| Keith D. Clutz, National Association of Plumbing-Heating-Cooling Contractors | Samuel J. Morano, American Society of Sanitary Engineering |
| David Curley, American Insurance Association | Thomas M. Murphy, New York State Division of Housing |
| Fred J. Davis, Building Officials Conference of America, Inc. | Frank W. Osborn, Air Conditioning and Refrigeration Institute |
| William Earthman, Edison Electric Institute. | J. A. Reade, American Gas Association |
| John Fleming, National Safety Council | W. J. Smith, Underwriters' Laboratories, Inc. |
| Tom S. Gable, National Sanitation Foundation Laboratory. | M. W. Smithman, National Association of Home Builders |
| John R. Gore, Jr., Fire Marshals Association of North America | Kent P. Stiner, National Electrical Code Committee |
| Hans R. Grigo, National Safety Council | Harry A. Stuart, Trailer Coach Association |
| John H. Hast, U. S. Department of the Interior, National Park Service | Earl W. Swett, Mobile Homes Manufacturers Association |
| Jordan Helman, American Society of Heating, Refrigerating and Air-Conditioning Engineers | Robert A. Tanner, Fire Marshals Association of North America |
| John D. Hoesy, Foremost Insurance Co. | G. J. Van Zandt, Trailer Coach Association |
| Walter H. Johnson, National LP-Gas Association (Chairman, Subcommittee on Recreational Vehicles) | R. E. Ward, International Association of Electrical Inspectors |
| Arthur Jungdahl, Gas Vent Institute | John Wilford, New Jersey Dept. of Health |
| J. Calvin Jurselt, American Society of Civil Engineers (Chairman, Subcommittee on Mobile Homes) | Paul H. Winter, National Electrical Manufacturers Association |
| Aron Killewer, Mobile Homes Manufacturers Association | Robert S. Wyly, National Bureau of Standards |

Alternates.

- J. Antonio Aragon, Alternate to Aron Kliewer, Mobile Homes Manufacturers Association
- C. E. Blome, Alternate to Arthur Jungdahl, Gas Vent Institute
- W. E. Brenner, Alternate to Earl W. Swett, Mobile Homes Manufacturers Assn.
- Willard E. Bryant, Alternate to M. W. Smithman, National Association of Home Builders
- Philip Dykstra, Alternate to Hans R. Grigo, National Safety Council
- Robert J. Evans, Alternate to F. W. Osborn, Air Conditioning and Refrigeration Institute
- Lloyd W. Garner, Alternate to John R. Gore Jr., Fire Marshals Association of North America
- Paul K. Hellstedt, Alternate to Fred J. Davis, Building Officials Conference of America
- P. E. Hodgdon, Alternate to L. E. Henry and J. A. Reade, American Gas Association
- Eugene L. Kilbourn, Alternate to D. J. Arnold, Recreational Vehicle Institute
- Nicholas A. Lacourte, Alternate to Jordan Heiman, American Society of Heating, Refrigerating & Air-Conditioning Engineers, Inc.
- H. Forrest Lovett, Alternate to Harry A. Stuart, Trailer Coach Association
- Herbert Luoma, Alternate to Arthur Kretschman, Gas Appliance Manufacturers Assn., Inc.
- Nell MacLean, Alternate to Norman Letter, International Assn. of Plumbers & Mechanical Officials
- J. P. Markey, Alternate to William Earthman, Edison Electric Institute
- W. G. Martin III, Alternate to Paul H. Winter, National Electrical Manufacturers Association
- L. W. Moses, Alternate to Louis C. Bell, Trailer Coach Association
- Jiyun Nakaji, Alternate to C. J. Van Zandt, Trailer Coach Association
- Marvin Nerem, Alternate to W. P. Marshall, Recreational Vehicle Institute, Inc.
- L. E. Palmer, Alternate to Paul H. Winter, National Electrical Manufacturers Association
- C. W. Phillips, Alternate to Robert S. Wyly, National Bureau of Standards
- F. M. Radigan, Alternate to R. E. Klingler, Recreational Vehicle Institute, Inc.
- Kenneth D. Rhoton, Alternate to T. R. Arnold, The Craftsmen's Guild
- Paul Solomon, Alternate to Russell R. Bahr, California State Dept. of Housing and Community Development
- W. Thomas, Alternate to David Curley, American Insurance Association
- John H. Watt, Alternate to George H. Tryon, National Fire Protection Assn.
- Harold Weaver, Alternate to John Martin, Mobile Homes Manufacturers Assn.
- Rene H. Yerke, Alternate to W. J. Smith, Underwriters' Laboratories, Inc.

Liaison Representatives.†

- Robert Buechner, National Recreation and Park Association
- Weldon C. Fill, U. S. Dept. of Health, Education & Welfare, Bureau of Community & Environmental Management
- D. M. Manson, Standards and Development Section, Canadian Standards Association Testing Laboratories
- Robert G. Reichel, U.S. Dept. of Housing and Urban Development
- Ronald R. Speedy, U. S. Dept. of Health, Education & Welfare, Bureau of Community & Environmental Management (Alternate to Weldon C. Fill)
- R. D. Watson, Canadian Standards Association Testing Laboratories (Alternate to D. M. Manson)

†Nonvoting.

This Committee functions under the auspices of the American National Standards Institute under the joint sponsorship of the Mobile Homes Manufacturers Association, the NFPA, the Recreational Vehicle Institute, Inc. and the Trailer Coach Association.

Subcommittee on Recreational Vehicles

Walter H. Johnson, *Chairman*

National LP-Gas Association
79 W. Monroe Street, Chicago, Ill. 60603

George H. Tryon, *Secretary*

National Fire Protection Association
60 Batterymarch St., Boston, Mass. 02110

Francis E. Greenleaf, *Assistant Secretary*

Trailer Coach Association
3855 E. La Palma Ave., Anaheim, Calif. 92806

Phillip N. Shrake, *Assistant Secretary*

Recreational Vehicle Institute
2720 Des Plaines Ave., Des Plaines, Illinois 60018

LeRoy V. Abbott, Insurance Co. of North America

Delevan J. Arnold, TRAVOC Corp. (Recreational Vehicle Institute)

Russell R. Bahr, California Division of Building & Housing Standards

Louis C. Bell, Trailer Coach Association

Roy Boston, Georgia Dept. of Public Health (Conf. of State Sanitary Engineers)

Keith D. Cletz, National Assn. of Plumbing-Heating-Cooling Contractors

David P. Curley, Aetna Life and Casualty (American Insurance Association)

William E. Earthman, Duke Power Co. (Edison Electric Institute)

John Fleming, National Safety Council

Tom S. Gable, National Sanitation Foundation Laboratory, Inc.

John H. Haast, National Park Service, U. S. Dept. of the Interior

J. D. Hoesy, Foremost Insurance Co.

Jordan Holzman, Intertherm Inc. (American Society of Heating, Refrigerating & Air-Conditioning Engineers)

Arthur Jungdahl, Gas Vent Institute

R. E. Klingler, Holiday Rambler Corp. (Recreational Vehicle Institute)

Arthur Kretschman, Duo-Therm Division, Motor Wheel Corp. (Gas Appliance Manufacturers Association, Inc.)

Norman Latta, International Assn. of Plumbing & Mechanical Officials

Gordon B. Lemke, Employers Insurance of Wausau (American Mutual Insurance Alliance)

W. P. Marshall, Leisure Time Products, Inc. (Recreational Vehicle Institute)

Samuel J. Morano, American Society of Sanitary Engineers

Frank W. Osborn, The Coleman Co., Inc. (Air Conditioning and Refrigeration Institute)

W. J. Smith, Underwriters' Laboratories, Inc. Kent P. Stiner, National Electrical Code Committee

Harry A. Stuart, Bure Stop Manufacturing Inc. (Trailer Coach Association)

R. A. Tanner, Utah State Fire Marshal (Fire Marshals Assn. of North America)

C. J. Van Zandt, Sierra Craft (Trailer Coach Association)

R. E. Ward, Tennessee Dept. of Insurance and Banking (International Association of Electrical Inspectors)

Paul H. Winter, Pass and Seymour Inc. (National Electrical Manufacturers Association)

Alternates

C. E. Blome, Wm. Wallace Co. (Alternate to Arthur Jungdahl)

Robert J. Evans, Air Conditioning & Refrigeration Institute (Alternate to F. W. Osborn)

Hana R. Grigo, National Safety Council (Alternate to John Fleming)

Eugene L. Kilbourn, Recreational Vehicle Institute (Alternate to Delevan J. Arnold)

Nicholas LaCourts, American Society of Heating, Refrigeration & Air Conditioning Engineers (Alternate to Jordan Heiman)

H. Forrest Lovett (Alternate to Harry A. Stuart)

Herbert Luoma, Gas Appliance Manufacturers Assn., Inc. (Alternate to Arthur Kretschman)

Neil A. MacLean, International Association of Plumbing & Mechanical Officials (Alternate to Norman Latta)

John P. Markey, Edison Electric Institute (Alternate to William Earthman)

W. G. Martin III, Emerson Electric Co. (Alternate to Paul H. Winter)

L. W. Moses, Trailer Coach Assn. (Alternate to Louis C. Bell.)

Jiyun Nakaji, Cambridge Mfg. Co. (Alternate to C. J. Van Zandt)

Marvin E. Norem, Winnebago Industries, Inc. (Alternate to W. P. Marshall)

- L. E. Palmer, Union Insulating Co. (Alternate to P. H. Winter) John H. Watt, National Fire Protection Association (Alternate to G. H. Tryon)
F. M. Radigan, Recreational Vehicle Institute (Alternate to R. E. Klingler) Rene H. Yerke, Underwriters' Laboratories, Inc. (Alternate to W. J. Smith)
Walter Thomas 2nd, Aetna Casualty & Surety Co. (Alternate to David Curley)

Liaison Representatives.†

- Robert Buechner, National Recreation and Park Association
Weldon C. Fill, U. S. Dept. of Health, Education & Welfare, Bureau of Community & Environmental Management
D. M. Manson, Standards and Development Section, Canadian Standards Association Testing Laboratories
Robert G. Reichel, U.S. Dept. of Housing and Urban Development
Ronald R. Speedy, U. S. Dept. of Health, Education & Welfare, Bureau of Community & Environmental Management (Alternate to Weldon C. Fill)
R. D. Watson, Canadian Standards Association Testing Laboratories (Alternate to D. M. Manson)

†Nonvoting.

Task Groups

Work on this Standard for Recreational Vehicles was greatly aided by Task Groups, which developed the basic material for the detailed consideration of a Subcommittee on Recreational Vehicles and the parent Committee on Mobile Homes and Recreational Vehicles. There follows a listing of the three Task Groups.

Electrical Task Group

Eugene L. Kilbourn, *Chairman*
Progressive Dynamics, Inc.

P.O. Box 168, 507 Industrial Road, Marshall, Michigan 49068

Don Agnew, Trallite Mfg. Co.

John C. Hewitt, Washington (State) Dept.
of Labor and Industries

John C. Hufft, Coachmen Industries, Inc.

Wayne Korn, TRAVCO Corporation

Marvin E. Nerem, Winnebago Industries,
Inc.

R. E. Ward, Tennessee Dept. of Insurance
and Banking

Paul H. Winter, Pass and Seymour, Inc.

Heating Task Group

Bob Cooper, *Chairman*
The Coleman Company, Inc.

250 N. St. Francis, Wichita, Kansas 67201

Robert Boles, Nimrod Division, Ward
Manufacturing Co.

Albert Chamberlain, Royal-DeSoto Divi-
sion of DeSoto, Inc.

John Haat, National Park Service, U. S.
Dept. of the Interior

Jordan Helman, Intertherm Inc.

H. Forrest Lovett, Streamline Trailer
Company

Gary O'Dell, Coachmen Industries, Inc.

Darrel Reifschneider, Manchester Tank
and Equipment Co.

Eldon Winkley, Oregon Chief Deputy
State Fire Marshal

Plumbing Task Group

Harry S. Stuart, *Chairman*
Sure Stop Manufacturing, Inc.

16287 Minnesota Ave., Paramount, Calif. 90723

Delevan J. Arnold, TRAVCO Corp.

Weldon C. Fill, U. S. Dept. of Health,
Education & Welfare

Tom S. Gable, National Sanitation Founda-
tion Laboratory, Inc.

Ed Gerlach, TRAVCO Corporation

Norman Latta, International Assn. of
Plumbing & Mechanical Officials

Marvin E. Nerem, Winnebago Industries,
Inc.

Ronald J. Sargent, Thetford Corporation

Standard for Recreational Vehicles
(Travel Trailers, Camping Trailers, Truck Campers, Motor Homes)
Installation of Plumbing, Heating and
Electrical Systems

Proposed American National Standard A119.2 — 1970

NFPA No. 501C — 1970

TABLE OF CONTENTS

Foreword	8
Official Interpretations Procedures	10
Definitions Common to Parts I, II, and III	12
Part I — Plumbing Systems	14
1. Introduction	14
2. Scope	14
3. Definitions	14
4. General Requirements	18
5. Materials — Quality and Weight	20
6. Joints and Connections	20
7. Traps and Cleanouts	21
8. Plumbing Fixtures	23
9. Hangers and Supports	25
10. Water Distribution Systems	25
11. Drainage Systems	29
12. Vents and Venting	35
13. Tests and Inspection (Plumbing)	36
Appendix — Applicable Standards	38
Part II — Heating Systems	46
1. Introduction	46
2. Scope	46
3. Definitions	47
4. Fuel Supply Systems	49
5. Piping Systems	52
6. Heat-Producing Appliances	59
Appendix — Applicable Standards	65
Part III — Electrical Systems	68
1. Introduction	68
2. Scope	68
3. Definitions	68
4. Batteries and Direct-Current Power (Twelve Volts Nominal)	74
5. Combination Electrical Systems	76
6. Generator Installations	77
7. Nominal 120 or 120/240 Volt Systems	78
8. Factory Tests (Electrical)	91
9. Examination of Equipment for Safety	91

Standard for Recreational Vehicles
(Travel Trailers, Camping Trailers, Truck Campers, Motor Homes)
Installation of Plumbing, Heating and
Electrical Systems

Proposed American National Standard A119.2 — 1970

NFPA No. 501C — 1970

TABLE OF CONTENTS

Foreword	8
Official Interpretations Procedures	10
Definitions Common to Parts I, II, and III	12
Part I — Plumbing Systems	14
1. Introduction	14
2. Scope	14
3. Definitions	14
4. General Requirements	18
5. Materials — Quality and Weight	20
6. Joints and Connections	20
7. Traps and Cleanouts	21
8. Plumbing Fixtures	23
9. Hangers and Supports	25
10. Water Distribution Systems	25
11. Drainage Systems	29
12. Vents and Venting	35
13. Tests and Inspection (Plumbing)	36
Appendix — Applicable Standards	38
Part II — Heating Systems	46
1. Introduction	46
2. Scope	46
3. Definitions	47
4. Fuel Supply Systems	49
5. Piping Systems	52
6. Heat-Producing Appliances	59
Appendix — Applicable Standards	65
Part III — Electrical Systems	68
1. Introduction	68
2. Scope	68
3. Definitions	68
4. Batteries and Direct-Current Power (Twelve Volts Nominal)	74
5. Combination Electrical Systems	76
6. Generator Installations	77
7. Nominal 120 or 120/240 Volt Systems	78
8. Factory Tests (Electrical)	91
9. Examination of Equipment for Safety	91

Recreational Vehicles are defined as vehicular type units primarily designed as temporary living quarters for recreational, camping, or travel use which either have their own motive power or are mounted on or drawn by another vehicle. The basic types of recreational vehicles are travel trailers, camping trailers, truck campers, and motor homes. Each of these is defined further herein.

In conformance with the policies of the American National Standards Institute and the four sponsors of this project, the Committee on Mobile Homes and Recreational Vehicles is constituted as a standing Committee with continuing responsibility to maintain and improve this Standard so that it might at all times be a useful and effective document to guide manufacturers and their suppliers concerning the installation of plumbing, heating and electrical systems in recreational vehicles with the basic objective of protecting the safety and health of the owners and occupants of the vehicles. The Standard in its present form does not cover the construction of recreational vehicles or features related to the safety and performance of the vehicles when in use as a vehicle. Federal and state motor vehicle regulations are applicable to these vehicles and should be referred to in connection therewith. The Standards of the Society of Automotive Engineers are cited where appropriate.

The participation of the National Fire Protection Association as a sponsor of this project is administrative and undertaken in the sole interest of safety to life and property from fire and allied hazards. Some portions of this Standard cover areas outside the scope of NFPA's normal sphere of activity but are of interest and concern to the other sponsors and to users of recreational vehicles. The NFPA Board of Directors has authorized the Association's participation with the understanding that its responsibility extends only to those areas within its scope.

In order to aid users of this Standard, an Official Interpretations Procedure has been developed and is detailed herein.

Official Interpretations Procedure
Committee on Mobile Homes and Recreational Vehicles

1. General. There is hereby established an Official Interpretations Procedure for the Committee on Mobile Homes and Recreational Vehicles for the purpose of providing official explanations of the meaning or intent of any specific provision or provisions of any standard developed under the jurisdiction of the Committee.

NOTE: This Official Interpretations Procedure does not prevent any Committee Chairman or Member from commenting on the meaning or intent of any provision of any such document, provided that the comment is clearly identified as not being an Official Interpretation of the Committee.

2. Nature of Official Interpretations. Two General forms of Official Interpretations shall be recognized:

- (a) Those making an Interpretation of the literal text.
- (b) Those making an Interpretation of the intent of the Committee when the particular text was adopted.

No judgments will be rendered by the Interpretations Committee regarding compliance with any of the Committee's standards of engineering drawings.

3. Procedures for Requesting Official Interpretations. Those desiring an Interpretation shall direct their requests to the Chairman or Secretary of the Committee, c/o National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110, supplying five identical copies of a statement in which shall appear specific references to a single problem, identifying article, section or paragraph of the document with which they are concerned. Such a request shall be on the business stationery of the inquirer and shall be duly signed. When applications involve actual field situations they shall so state, and all parties involved shall be named.

4. Committee Handling of Requests for Official Interpretations. The Committee shall not be under any obligation to process requests for Official Interpretations in any specified time period nor to issue an Official Interpretation except at its own convenience. The Committee officers may process the request for an Official Interpretation exactly the way it has been submitted, or they may rephrase the question, if desired, to clarify the intent, or they may refuse to consider the request if they find it not to be in proper form or consistent with Paragraph 2. If acceptable for consideration, the request for an Official Interpretation shall be submitted to an Interpretations Subcommittee made up of five or more individuals selected by the Chairman or by the Secretary (with the approval of the Chairman). In selecting those to serve the Chairman or the Secretary will select Members of the appropriate Subcommittee having jurisdiction over the question posed and may also include up to two members of the appropriate Task Group who are not Subcommittee members, but no Member, Alternate, or Task Group representative shall be eligible for such appointment if he is directly involved in the particular case prompting the request for the Interpretation. The Personnel of each Interpretations Subcommittee may be varied with each request.

5. Voting on Interpretations. In any case where there is not unanimous agreement in the Interpretations Subcommittee, the request for Interpretation shall be referred to the Subcommittee having primary jurisdiction for a decision. Under these conditions, adoption of an Official Interpretation requires approval by a three-quarters majority vote of that Subcommittee. Where a three-quarters majority vote is not received, the item shall be placed on the docket

for regular processing by the Subcommittee for subsequent possible action. If the Interpretations Subcommittee unanimously agree or a three-quarters affirmative vote is secured from the Subcommittee having primary jurisdiction, the Executive Committee of the Committee on Mobile Homes and Recreational Vehicles shall be informed of the decision reached and shall be requested to ballot on said decision. If unanimous agreement is reached, the applicant shall be informed promptly and as soon as possible the Interpretation shall be published by the sponsors in the publications each distributes to its members and announced in a suitable news release by the Secretary which shall be sent to the American National Standards Institute for their information and guidance. If the Executive Committee does not concur unanimously, the question shall be placed before the full membership of the Committee on Mobile Homes and Recreational Vehicles, where a three-quarters majority vote must be secured to complete the processing of the Interpretation as indicated in the previous sentence.

6. Action Following Issuance of Official Interpretations. Following the issuance of an Official Interpretation, the Subcommittee shall be obliged to review the item on which the Interpretation has been issued with a view to determining whether any change may be desired in the standard to clarify or correct the condition which brought about the request for the Official Interpretation. If such a change is indicated, the Subcommittee shall process such a change in conformance with the usual procedures established under the rules of procedure of the Committee as a whole.

7. Time Limit on Interpretations. Any Official Interpretation issued shall apply only to the edition of the document for which the Interpretation is made.

**Standard for Recreational Vehicles
Installation of Plumbing, Heating, and
Electrical Systems**

Proposed American National Standard A119.2 — 1970

NFPA No. 501C — 1970

Definitions Common to Parts I, II, and III

Authority Having Jurisdiction: The organization, office or individual responsible for "approving" equipment, an installation, or a procedure.

Camping Trailer: A vehicular portable unit mounted on wheels and constructed with collapsible partial side walls which fold for towing by another vehicle and unfold at the camp site to provide temporary living quarters for recreational, camping, or travel use. (See "Recreational Vehicle")

Motor Home: A vehicular unit built on a self-propelled motor vehicle chassis, primarily designed to provide temporary living quarters for recreational, camping, or travel use. (See "Recreational Vehicle")

Recreational Vehicle: A vehicular type unit primarily designed as temporary living quarters for recreational, camping, or travel use, which either has its own motive power or is mounted on or drawn by another vehicle. The basic entities are: travel trailer, camping trailer, truck camper and motor home.

Shall: Mandatory rules are characterized by the use of the word "shall."

Should: Advisory rules are characterized by the use of the word "should."

Travel Trailer: A vehicular portable unit, mounted on wheels, of such a size or weight as not to require special highway movement permits when drawn by a motorized vehicle; primarily designed and constructed to provide temporary living quarters for recreational, camping, or travel use; and of a body width of no more than eight feet (8') and a body length of no more than thirty-two feet (32') when factory equipped for the road. (See "Recreational Vehicle")

Truck Camper: A portable unit, designed to be loaded onto, or affixed to, the bed or chassis of a truck, constructed to provide temporary living quarters for recreational, camping, or travel use. Truck campers are of two basic types as defined below:

a. **SLIDE-IN CAMPER:** A portable unit designed to be loaded onto and unloaded from the bed of a pickup truck, constructed to provide temporary living quarters for recreational, travel or camping use.

b. **CHASSIS-MOUNT CAMPER:** A portable unit designed to be affixed to a truck chassis, and constructed to provide temporary living quarters for recreational, travel or camping use.

Part I — Plumbing Systems

1. Introduction

1.1 Those members of the engineering profession and others associated with the design, manufacturing, installation, and inspection of recreational vehicle plumbing systems have been aware of the need for uniform technical standards leading to the safe and sanitary use of this special type of equipment. They have also recognized that because of conditions of transport and use, existing plumbing standards for permanent buildings are not completely applicable to recreational vehicles. It is with these factors in mind that Part I of this Standard has been developed.

1.2 Much of the material in Part I has been taken from, or is based on, nationally recognized standards for plumbing materials, fixtures, fittings, and equipment.

2. Scope

2.1 Part I of this Standard covers the plumbing materials, fixtures, fittings, and equipment installed within or on recreational vehicles.

2.2 This Standard is not intended as a design specification or an instruction manual for untrained persons.

2.3 Wherever other nationally recognized standards for plumbing materials, fixtures, fittings and equipment and this Part differ, the requirements of the latter shall apply.

2.4 The provisions of this Standard are not intended to prevent the use of any material, appliance, installation, device, arrangement, or method of construction not specifically prescribed herein, provided any such alternative has been approved or listed. The enforcement authority shall approve such alternate if the material, appliance, installation, device, arrangement, or method of construction is at least the equivalent of that prescribed by this Part, and may require tests or proof of compliance to substantiate any claims that may be made regarding the use of any such alternate.

3. Definitions

Air Gap: The unobstructed vertical distance through the free atmosphere between the opening from any pipe or faucet supplying

potable water to a tank, plumbing fixture, or other device and the flood-level rim of the receptacle.

Approved: Means acceptable to the authority having jurisdiction.

Backflow: The flow of water or other liquids, mixtures, or substances into the distributing pipes of a potable supply of water from any source or sources other than its intended source.

Backflow Connection: Any arrangement whereby backflow can occur.

Backflow Preventer: A device or means to prevent backflow.

Body Waste: The discharge from any fixture, appliance or appurtenance containing fecal matter or urine.

Branch: Any part of the piping system other than a riser, main or vent stack.

Branch Vent: A vent connecting one or more individual vents with a vent stack.

Center: The midpoint between the right and left side of a recreational vehicle.

Certified: Means "listed" as defined herein.

Combination Compartment: A shower stall or recess that provides for or includes the installation of a toilet and is of such size and proportions that it may not be occupied by more than one person.

Common Vent. A vent connecting at the junction of fixture drains and serving as a vent for more than one fixture.

Continuous Vent: A vertical vent that is a continuation of the drain to which it connects.

Continuous Waste: A drain from two or more fixtures connected to a single trap.

Critical Level: The critical level, C-L or $\frac{C}{T}$ marking, on a backflow prevention device or vacuum breaker is a point established by the testing laboratory (usually stamped on the device by the manufacturer) which determines the minimum elevation above the flood level rim of the fixture or receptacle served on which the device may be installed. When a backflow prevention device does not bear a critical level marking, the bottom of the vacuum breaker, combination valve, or of any such approved or listed device shall constitute the critical level.

Cross Connection: Any physical connection or arrangement between two otherwise separate systems or sources, one of which con-

tains potable water and the other either water, steam, gas or chemical of unknown or questionable safety whereby there may be a flow from one system or source to the other, the direction of flow depending on the pressure differential between the two systems.

Developed Length: That length of pipe measured along the center line of the pipe and fittings.

Diameter: The nominal inside diameter designated commercially.

Drain: A pipe that carries waste, water, or water-borne wastes in a drainage system.

Drain Hose: The hose used for connecting the liquid and/or body waste drain outlet to a sewer inlet connection.

Drain Outlet: The lowest end of a main or secondary drain to which a sewer connection is made.

Drainage System: All piping within or attached to the structure that conveys body waste and/or liquid waste to the drain outlet or outlets.

Fixture Drain: The drain from the trap of a fixture to the junction of that drain with any other drain pipe.

Fixture Supply: The water supply pipe connecting a fixture to a branch water supply pipe or directly to a main water supply pipe.

Flood Level: The level in the receptacle over which water would overflow to the outside of the receptacle.

Flooded: The condition which results when the liquid in a container or receptacle rises to the flood-level.

Flush Tank: That portion of a toilet that is designed to contain sufficient water to adequately flush the fixture.

Flush Valve: A device located at the bottom of a flush tank for flushing a toilet.

Grade: See "Pitch."

Horizontal Branch: A drain pipe extending laterally, which receives the discharge from one or more fixture drains and connects to the main drain.

Horizontal Pipe: Any pipe or fitting that makes an angle of more than 45 degrees with the vertical.

Individual Vent: A pipe installed to vent a fixture drain.

Labeled: Equipment and materials bearing an inspection label, symbol, or other identifying mark of a recognized testing agency.

Length: The overall length of the recreational vehicle.

Liquid Waste: The discharge from any fixture, appliance, area or appurtenance which does not contain body waste.

Listed: Refers to plumbing materials, devices, fixtures, fittings, equipment, appliances, and accessories that are shown in a list published by a recognized agency, maintaining an adequate periodic inspection of current production of listed models, and whose listing states either that the material, device, fixture, fitting, equipment, appliance, or accessory complies with nationally recognized health and safety requirements or has been tested and found safe for use in a specified manner.

Main: The principal artery of the system to which branches may be connected.

Main Drain(s): The lowest piping of a drainage system which receives the liquid and/or body waste discharge from all the fixtures within the recreational vehicle and conducts these wastes to the drain outlet(s).

Pitch (or Grade): The fall (slope) of a pipe in reference to a horizontal plane expressed in inches per foot length.

Plumbing Fixtures: Receptacles, devices or appliances which are supplied with water or which receive liquid or liquid-borne wastes for discharge into the drainage system.

Toilet — Mechanical Seal: A toilet fitted with a water-flushing device and mechanically sealed trap.

Toilet — Recirculating Chemical: A self-contained, recirculating toilet in which the waste is chemically treated.

Toilet — Water Flush: A toilet fitted with a water flushing device and integral non-mechanical trap.

Trap: A fitting or device designed and constructed to provide a liquid seal that will prevent the back passage of air without materially affecting the flow of liquid waste through it.

Trap Arm: That portion of a fixture drain between a trap and its vent.

Trap Seal: The vertical depth of liquid that a trap will retain.

Vacuum Breaker: See "Backflow Preventer."

Vent Stack: A vertical vent pipe installed to provide circulation of air to and from the drainage system.

Vertical Pipe: Any pipe or fitting which makes an angle of 45 degrees or less with the vertical.

Waste Holding Tank: A liquid-tight tank for the temporary retention of body and/or liquid waste.

Water Distribution System: The potable water piping within or permanently attached to the recreational vehicle.

Water Service Connection: The fitting or point of connection of the vehicle water distribution system designed for connection to a potable water supply.

Water Storage Tank: A tank installed in a recreational vehicle for the purpose of storing potable water.

Wet Vent: A vent which also serves as a drain for one or more fixtures.

4. General Requirements

4.1 Minimum Requirements. Any plumbing system installed in a recreational vehicle shall conform, at least, with the provisions of this Standard. Requirements for any size, weight, or quality of material modified by the terms "minimum," "not less than," "at least," and similar expressions are "minimum standard."

4.1.1. Connections to Drainage System. All plumbing fixtures, drains, appurtenances, and appliances designed or used to receive or discharge liquid waste or body waste shall be connected to the recreational vehicle drainage system in a manner provided by this Standard.

4.1.2. Components. Plumbing materials, devices, fixtures, fittings, equipment, appliances, accessories, and appurtenances intended for use in or attached to a recreational vehicle shall be listed or certified by an approved listing agency, or be specifically approved by the enforcement authority when listing by an approved listing agency is not available.

4.1.3. Component Installations. All design, construction, and workmanship shall be in conformance with accepted engineering practices.

4.1.4. Prohibited Fittings and Practices.

4.1.4.1 Drainage or vent piping shall not be drilled and tapped for the purpose of making connections.

4.1.4.2 Except as specifically provided elsewhere in this Standard, vent pipes shall not be used as waste or drain pipes.

4.1.4.3 Fittings, connections, devices, or methods of installation that obstruct or retard the flow of liquid waste, body waste, or air in the drainage or venting systems in an amount greater than the normal frictional resistance to flow shall not be used unless their use is acceptable in this Standard or their use approved as having a desirable and acceptable function and their use of ultimate benefit to the proper and continued functioning of the plumbing systems.

4.1.4.4 Cracks, holes, or other imperfections in materials shall not be concealed by welding, brazing, or soldering or by paint, wax, tar, or other leak-sealing or repairing agents.

4.1.4.5 Piping, fixtures, or equipment shall be located so as not to interfere with the normal use or with the normal operation and use of windows, doors, or other required facilities.

4.1.4.6 Galvanized pipe shall not be bent or welded.

4.1.5 Alignment of Fittings. All valves, pipes, and fittings shall be installed in correct relationship to the direction of flow.

4.2 Protective Requirements.

4.2.1 Road Damage. Pipes, supports, drains, or outlets, or drain hoses shall not extend or protrude in a manner where they could be unduly subjected to road hazard.

4.2.2 Vermin Proofing. All exterior openings around piping shall be sealed to prevent the entrance of rodents.

5. Materials — Quality and Weight

5.1 Minimum Standards. Materials, fixtures, or devices used or entering into the construction of plumbing systems in any recreational vehicle shall be free from defect and shall conform to approved standards or the applicable standards shown in the Appendix to this Part.

5.2 Specific Usage. Each of the following sections indicates specifically the type of material presently permitted for use in the various parts of the plumbing system.

6. Joints and Connections

6.1 Tightness. Joints and connections in the plumbing system shall be gastight and watertight for the pressures required under testing procedures.

6.1.1 Assembling of Pipe. All joints and connections shall be correctly assembled for tightness. Pipe threads shall be fully engaged with the threads of the fittings. Plastic pipe and copper tubing shall be inserted to the full depth of the solder cup or welding sockets of each fitting. Pipe threads and slip joints shall not be wrapped with string, paper, putty or similar fillers.

6.1.2 Threaded Joints. Threads for screw pipe and fittings shall conform to the approved or applicable standard. All burrs shall be removed. Pipe ends shall be reamed out to size of bore, and all chips and cutting oil shall be removed. Pipe joint cement or thread lubricant shall be of approved type and applied to male threads only.

6.1.3 Solder Joints. Solder joints for tubing shall be made with approved or listed sweat solder type fittings. Surfaces to be soldered shall be cleaned bright. The joints shall be properly fluxed with noncorrosive paste type flux and made with approved or listed 50-50 solder or an approved solder having a higher melting temperature.

6.1.4 Plastic Pipe and Fittings. Plastic pipe and fittings shall be joined by installation methods recommended by the manufacturer.

7. Traps and Cleanouts

7.1 Traps.

7.1.1 Traps Required. Each plumbing fixture, except listed toilets and fixtures utilizing detachable waste holding tanks with integral traps, shall be separately trapped by approved water seal "P" traps. All traps shall be effectively vented.

7.1.2 Dual Fixtures. A two compartment sink, two single sinks, two lavatories, or a single sink and a single lavatory, with waste outlets not more than thirty inches (30") apart and flood level rims at same level may be connected to one "P" trap and may be considered as a single fixture for the purpose of drainage and vent requirements.

7.1.3 Prohibited Traps.

7.1.3.1 A trap which depends for its seal upon concealed interior partitions shall not be used. Full "S" traps, bell traps, drum traps, crown-vented traps, and running traps are prohibited.

Exception: A trap which is an integral part of a detachable waste holding tank.

7.1.3.2 Fixtures shall not be double-trapped.

7.1.4 Material and Design. Each "P" trap shall be approved or listed.

7.1.5 Trap Seal. Each "P" trap shall have a water seal of not less than two inches (2") and not more than four inches (4") and shall be set true to its seal.

7.1.6 Size. "P" traps shall be not less than one and one-quarter inches (1¼") in diameter when connected to a single fixture having no more than a two inch (2") drain opening. A "P" trap shall not be larger than the waste pipe to which it is connected.

7.1.7 Distance from Trap to Vent. The distance between a "P" trap and its vent or vented waste line shall be in accordance with Table 2.

7.1.8 Length of Tailpiece. The vertical distance from a "P" trap to the fixture outlet shall not exceed twenty-four inches (24").

7.1.9 Installation.

7.1.9.1 Grade of Trap Arm. The piping between a "P" trap and the fixture tee or the vented waste line shall be graded one-quarter inch (¼") per foot and in no event shall have a slope greater than its diameter. The vent opening at fixture tees shall not be below the invert of the "P" trap outlet.

7.1.9.2 Trap Arm Offset. The piping between the "P" trap and vent may change direction or be offset horizontally with the equivalent of no more than 180 degrees.

7.1.9.3 Concealed "P" Traps. "P" traps with slip joint connections shall be accessible for repair and inspection.

7.2 Cleanout Openings.

7.2.1 Location of Cleanout Fittings.

7.2.1.1 Cleanouts shall be installed if the drainage system cannot be cleaned through fixtures or vent openings.

7.2.1.2 A full size cleanout shall be installed at the upper end of any section of drain piping which does not have the required minimum slope of a one-quarter inch ($\frac{1}{4}$ ") per foot grade.

7.2.1.3 A cleaning tool shall not be required to pass through more than 360 degrees of fittings, excluding removable "P" traps, to reach any part of the drainage system.

7.2.2 Access to Cleanouts. Cleanouts shall be accessible through an unobstructed minimum clearance of twelve inches (12") directly in front of the opening. Each cleanout fitting shall open in a direction opposite to the flow or at right angles to the pipe. Concealed cleanouts that are not provided with access covers shall be extended to a point above the floor or outside of the recreational vehicle, with pipe and fittings installed, as required, for drainage piping.

7.2.3 Material. Plugs and caps shall be brass or approved or listed plastic, with screw pipe threads.

7.2.4 Design. Cleanout plugs shall have raised heads except that plugs at floor level shall have counter-sunk slots.

8. Plumbing Fixtures

8.1 General Requirements.

8.1.1 Quality of Fixtures. Plumbing fixtures shall have smooth impervious finishes, be free from defects and concealed fouling surfaces, be capable of resisting road shock and vibration, and shall conform in quality and design to approved or listed standards.

8.1.2 Strainers. The waste outlet of all plumbing fixtures, other than toilets, shall be equipped with a drain fitting that will provide an adequate unobstructed waterway.

8.1.3 Fixture Connections. Fixture tailpieces and continuous wastes in exposed or accessible locations shall be not less than No. 20 Brown and Sharpe gage seamless drawn-brass tubing or other approved pipe or tubing. Inaccessible fixture connections shall be constructed according to the requirements for drainage piping. Each fixture tailpiece, continuous waste, or waste and overflow shall be not less than one and one-quarter inches (1¼") for a single fixture having a two inch (2") maximum drain opening.

8.1.4 Concealed Connections. Concealed slip joint connections shall be provided with adequately sized unobstructed access panels and shall be accessible for inspection and repair.

8.2 Fixtures.

8.2.1 Toilets.

8.2.1.1 Each toilet shall be designed and manufactured according to approved or listed standards and shall be equipped with a water flushing device capable of adequately flushing and cleaning the bowl at each operation of the flushing mechanism.

8.2.1.2 Recirculating or mechanical seal toilets may provide for storage of liquid waste and body waste as an integral part of the unit. When a mechanical seal toilet does not contain storage for the retention of liquid waste and body waste, it shall be connected to an approved waste holding tank.

8.2.1.3 Floor or Tank Connections. Toilets, when directly connected to a waste holding tank or drainage system, shall be securely bolted to either the tank or the floor by means of an approved closet flange or other approved fitting. Bolts and screws when used shall be of brass or other noncorrosive material and shall be not less than one-quarter inch (¼") in diameter. A watertight seal shall be made between the toilet and flange or other approved fittings by the use of a gasket or sealing compound.

8.2.2 Shower Stalls, Receptors and Enclosures.

8.2.2.1 Each shower stall shall be provided with an approved watertight receptor with sides and back extending one inch (1") above the finished dam or threshold. In no case shall the depth of a shower receptor be less than two inches (2") or more than nine inches (9"), measured from the top of the finished dam or threshold to the top of the drain.

8.2.2.2 The joint around the drain connection and around the toilet outlet in combination compartments shall be made watertight by a flange, clamping ring, or other approved or listed means.

8.2.2.3 Shower doors and tub and shower enclosures shall be constructed so as to be waterproof and, if glazed, be glazed with materials such as wired-glass, laminated safety glass, plastics, reinforced plastics, or other approved materials. Hinged swinging shower doors shall open outward. Glass used for glazing and classified as safety glass shall conform to ANSI Z97.1 — 1966.

8.2.2.4 Prefabricated shower stalls and receptors shall be approved or listed and shall comply with the requirements relating to plumbing fixtures, shower stalls and receptors for recreational vehicles.

8.3 Installation

8.3.1 Access. Each plumbing fixture shall be located and installed in a manner to provide access for cleaning and repair.

8.3.2 Alignment. Fixtures shall be set level. Where practical, piping from fixtures shall extend to nearest wall.

8.3.3 Brackets. Wall-hung fixtures shall be rigidly attached to walls by brackets or supports without any strain being transmitted to the piping connections. Flush tanks shall be securely fastened to toilets or to the wall with noncorrosive material.

9. Hangers and Supports

9.1 Strains and Stresses. Piping in a plumbing system shall be installed without undue strains and stresses, and provision shall be made for expansion and contraction.

9.2 Drain Piping Supports. Drain piping shall be secured at not more than 4 foot intervals, unless different spacing is recommended by the piping manufacturer, to keep the pipe in alignment and carry the weight of the pipe and contents.

9.3 Hangers and Anchors.

9.3.1 Hangers and anchors shall be of sufficient strength to support their proportional share of the pipe alignments and prevent rattling.

9.3.2 Piping shall be securely attached to the structure by proper hangers, clamps, or brackets which provide protection against damage from motion, vibration, road shock, torque in the chassis, or other unusual conditions.

10. Water Distribution Systems

10.1 Water Supply.

10.1.1 Supply Piping. Piping systems shall be sized to provide an adequate quantity of water to each plumbing fixture at a flow rate sufficient to keep the fixture in a clean and sanitary condition without any danger of backflow or siphonage.

10.1.2 Potable Water Storage Tanks. Potable water storage tanks shall be listed. If tank is installed in such a manner that it is subject to road damage, it shall be protected. Each non-pressure or gravity tank shall be equipped with a vent at the top of the tank to assist in filling and drainage.

10.1.3 The water distribution system shall be installed with a valve, drain plug or cap, located at the lowest point or points to provide for complete drainage of the system and water storage tank.

10.2 Water Outlets and Supply Connections.

10.2.1 Water Service Connection. Each recreational vehicle with a water distribution system sized as required in Table 1, which may be connected to an outside source, shall be equipped with a three-quarter inch ($\frac{3}{4}$ ") swivel female hose water service connection. A matching cap or plug shall be provided to close the water inlet when it is not in use and shall be attached in a substantial manner.

10.2.2 Prohibited Connections.

10.2.2.1 The installation of potable water supply piping or fixture or appliance connections shall be made in a manner to preclude the possibility of backflow.

10.2.2.2 No part of the water system shall be connected to any drainage or vent piping.

10.2.3 Rim Outlets. The outlets of faucets, spouts, and similar devices shall be spaced at least one inch (1") above the flood level of the fixture.

10.2.4 Flushometer Valves or Manually Operated Flush Valves. An approved or listed vacuum breaker shall be installed and maintained in the water supply line on the discharge side of a toilet flushometer valve or manually operated flush valve. Vacuum breakers shall have a minimum clearance of six inches (6") above the flood level of the fixture to the critical level mark, unless otherwise specified and approved.

10.2.5 Flush Tanks. Toilet flush tanks shall be equipped with an approved anti-siphon ball cock which shall be installed and maintained with its outlet or critical level mark not less than one inch (1") above the the full opening of the overflow pipe.

10.2.6 Backflow Preventer. When pressure water storage tanks or reservoirs (except water heaters or flush tanks) for storing potable water are connected to the water distribution system of recreational vehicles, which have a water service connection for an outside source of supply, they shall have an approved or listed check valve or other approved or listed type backflow prevention device installed in the water-supply piping adjacent to the water service connection. An approved or listed pressure relief valve shall be required on the outlet side of the check valve.

Exception: Systems utilizing gravity-type tanks or systems not providing means for heating water or creating pressures shall not require a pressure relief valve.

10.3 Safety Devices.

10.3.1 Relief Valves.

10.3.1.1 When a check valve (see 10.2.6) or pressure regulating device is installed between the water service connection and a water heater or closed hot water tank, a listed pressure relief valve or a listed temperature-pressure relief valve, sized equivalent to the Btuh rating of the water heater or larger, shall be installed.

10.3.1.2 Pressure relief valves, when installed, shall be installed in the cold water supply pipe between the pressure regulator or the check valve and any heater or tank, and shall be so located as to be accessible.

10.3.1.3 The relief valve if located inside the recreational vehicle shall be equipped with a full size drain able to withstand 225° Fahrenheit which shall extend outside, with the end directed downward, except that no drain shall be required if the relief valve discharges into an area sealed off from the inside of the vehicle and drained and ventilated to the outside. The discharge end of the drain shall not be equipped with a thread or other means of capping or plugging.

10.3.1.4 Water storage tanks which may be pressurized by air shall be equipped with a listed air pressure relief valve set to open at not more than 125 psig or the tank manufacturer's recommended working pressure, whichever is lower. The pressure relief valve shall be located above the maximum water level of the tank.

10.4 Materials.

10.4.1 **Piping Material.** Water pipe shall be of standard weight brass, galvanized wrought iron, galvanized steel, Type K or L copper tubing, listed plastic, or other approved or listed material.

10.4.2 **Fittings.** Appropriate fittings shall be used for all changes in size and where pipes are joined. The material and design of fittings shall conform to the type of piping used.

10.4.2.1 Fittings for screw piping shall be standard weight galvanized iron for galvanized iron and steel pipe, and of brass for brass piping. They shall be installed where required for change in direction, reduction of size, or where pipes are joined together.

10.4.2.2 Fittings for copper tubing shall be cast brass or drawn copper sweat solder pattern or flare type.

10.4.2.3 Fittings for plastic water piping shall be of approved or listed brass or plastic, compatible in design for the type of plastic used.

10.4.3 Prohibited Material.

10.4.3.1 Used piping materials shall not be permitted.

10.4.3.2 Thermoplastic pipe and fittings shall not be used in water systems containing water heating devices unless such pipe and fittings are listed for use in hot water systems.

10.5 Installation of Piping.

10.5.1 Minimum Requirement. All piping equipment, appurtenances, and devices shall be installed in a workmanlike manner and shall conform with the provisions and intent of this Standard.

10.5.2 Screw Pipe. Iron pipe-size brass or galvanized iron or steel pipe and fittings shall be joined with approved or listed standard pipe threads fully engaged in the fittings. Pipe ends shall be reamed to the full bore of the pipe. Pipe-joint compound shall be insoluble in water, shall be nontoxic, and shall be applied to male threads only.

10.5.3 Solder Fittings. Copper tubing shall be joined to sweat solder fittings by means of hot solder and a noncorrosive flux. The surfaces to be soldered shall be thoroughly cleaned. The use of self-cleaning fluxes shall not be permitted.

10.5.4 Flared Fittings. A flaring tool shall be used to shape the ends of flared tubing to match the flare of fittings.

10.5.5 Plastic Pipe and Fittings. Plastic pipe and fittings shall be joined by installation methods recommended by the piping manufacturer.

10.6 Minimum Size of Water Supply Piping. The size of water supply piping and branch lines shall not be less than sizes shown in Table 1.

10.7 Line Valves. Valves, when installed in the water supply distribution system shall, when fully opened, have a cross-sectional area at least equal to the nominal size of the pipe in which the valve is installed.

Exception: This requirement shall not apply to a valve controlling only one fixture supply.

Table 1
Minimum Size Tubing and Pipe for
Water Distribution Systems*

Number of Fixtures	Tubing		Pipe
	Inner Dia. (Inches)	Outer Dia. (Inches)	Iron Pipe Size (Inches)
1	1/4**	3/8**	3/8
2	1/4**	3/8**	3/8
3	3/8	1/2	1/2
4	3/8	1/2	1/2
5	1/2	5/8	1/2

*Minimum size for toilet water supply line shall not be less than the size recommended by the manufacturer.

**6-foot maximum length.

10.8 Labeling. Each inlet to a potable water tank shall have an affixed label which shall read:

WARNING: POTABLE WATER ONLY. SANITIZE, FLUSH AND DRAIN BEFORE USING. SEE INSTRUCTION MANUAL.

Instructions for proper sanitizing of water distribution systems shall be furnished with each vehicle.

11. Drainage Systems

11.1 Materials.

11.1.1 Pipe. Drainage piping shall be standard weight, galvanized steel, galvanized wrought iron, brass, copper tube DWV, listed plastic, or other approved or listed material.

11.1.2 Fittings. Drainage fittings shall be recessed drainage pattern with smooth interior waterways of the same diameter as the piping and shall be of a material conforming to the type of piping used. Drainage fittings shall be designed to provide for one-quarter inch (1/4") per foot grade in horizontal piping.

11.1.2.1 Fittings for screw pipe shall be cast iron, malleable iron, brass, or approved or listed plastic, with standard pipe threads.

11.1.2.2 Fittings for copper tubing shall be cast brass or wrought copper.

11.1.2.3 Fittings for plastic piping shall be made to approved or applicable standards.

11.1.2.4 Brass adapter or wrought copper fittings shall be used to join copper tubing to threaded pipe.

11.2 Drain Outlets.

11.2.1 **Main Drain Outlet.** Each recreational vehicle shall have a drain outlet which shall terminate horizontally at any point within twenty-two feet (22') of the rear, on the left (road) side or at the rear, left of the longitudinal center of the vehicle within eighteen inches (18") of the outside wall, and shall direct its discharge toward that side or toward the rear within an angle of 90° formed between that side and the rear end of such vehicle. The drain outlet may terminate vertically when it is equipped with a quick disconnect type coupler and a companion elbow hose adapter. If more than eighteen inches (18") above the ground it may terminate either vertically or horizontally.

Exceptions:

1. A camping trailer not more than seventeen feet (17') in length, a motor home or a truck camper may have the drain outlet located on either side, provided the electrical and gas connections are located on the same side.

2. A recreational vehicle having a mechanical seal toilet with waste holding tank or a recirculating chemical toilet may have a separate drain which may be located at any location on the perimeter of the vehicle within eighteen inches (18") of the outside wall and shall be provided with a fullway valve. The drain for the remainder of the plumbing system shall be considered the main drain. A fullway valve shall be provided with a standard three inch (3") male thread and female threaded cap which is securely fastened to the vehicle and shall not be equipped with extensions or other actuating devices, or be installed in such a manner that discharge may be accomplished while the vehicle is in motion.

11.2.2 Cap.

11.2.2.1 An approved water-tight cap on the drain outlet shall be permanently attached to the vehicle.

11.2.2.2 There shall be permanently affixed near the cap in a visible, exterior location, a weatherproof label with letters of three-sixteenth inch ($\frac{3}{16}$ ") minimum height, reading: "CAP MUST BE SECURELY IN PLACE WHILE THE VEHICLE IS IN MOTION."

11.2.3 Clearance from Drain Outlet. The drainage outlet and couplers shall be provided with a minimum clearance of one and one-half inches ($1\frac{1}{2}$ ") in any direction from all parts of the vehicle and with adequate unrestricted clearance directly in front of the drainage outlet.

11.2.4 Liquid Waste Drain Outlet. Each recreational vehicle may utilize a separate drain for discharging liquid waste which shall be one and one-half inch ($1\frac{1}{2}$ ") minimum diameter and shall be equipped with a cap securely fastened to the vehicle.

11.2.4.1 The drain may terminate on the discharge side of the full-way valve on the waste holding tank into an approved three inch (3") fitting designed for this purpose.

11.2.4.2 A minimum one and one-half inch ($1\frac{1}{2}$ ") drain may be utilized to drain a separate liquid waste holding tank.

11.2.4.3 If drain outlet is less than eighteen inches (18") above the ground it shall terminate horizontally. If more than eighteen inches (18") above the ground it may terminate either vertically or horizontally.

11.2.5 Hose Couplers.

11.2.5.1 Hose couplers for drain outlets shall be a quick disconnect type not requiring any special tools or knowledge to make the connection or remove the drain hose.

11 Fixture Connections. Drainage piping shall be provided with inlet fittings for fixture connections, correctly located according to size and type of fixture to be connected.

11.4 Size of Drainage Piping.

11.4.1 Fixture Load. Drain pipe sizes shall be determined by the type of fixture and the total number connected to each drain.

11.4.1.1 One and one-half inch ($1\frac{1}{2}$ ") minimum diameter piping shall be required for one and not more than three individually vented fixtures.

11.4.1.2 Two inch (2") minimum diameter piping shall be required for four or more fixtures individually vented.

11.5 Wet-Vented Drainage System.

11.5.1 Horizontal Piping. All parts of a wet-vented drainage system, including the connected fixture drains, shall be horizontal except for the wet-vented vertical riser. Where required by structural design, wet-vented drain piping may be offset vertically when

other vented fixture drains or relief vents are connected to the drain piping below the vertical offsets.

11.5.2 Size. A wet-vented drain pipe shall be at least one pipe size larger than the largest connected trap or fixture drain. Not more than three fixtures may connect to a wet-vented drain system.

11.5.3 Length of Trap Arm. Fixture traps shall be located within the distance given in Table 2. Not more than one trap shall connect to a trap arm.

Table 2
Distance of Fixture Trap from Vent

Size of Trap Arm (Inches)	Distance Trap to Vent
1¼	4 feet 6 inches
1½	4 feet 6 inches
2	5 feet 0 inches
3	6 feet 0 inches

11.6 Side-Vent Drainage System.

11.6.1 A recreational vehicle that has no plumbing fixture(s) connected to the main drain other than a one- or two-compartment sink with drain opening(s) of not more than two inches (2") in diameter may be connected to a side-vent drainage system.

11.6.2 Drainage and vent systems shall be constructed of approved or listed components with an approved baffle or directional type fixture tee.

11.6.3 A baffle or diverter tee shall be used to connect the trap arm to the side vent system.

11.6.4 "P" traps shall be one and one-fourth inch (1¼") minimum diameter installed as close to the sink as possible with the center of the outlet not more than six inches (6") from the bottom of the sink.

11.6.5 The center of the vent offset through the outside wall shall be located as high as the structure will permit but not less than two and one-fourth inches (2¼") above the bottom of the sink to the center of the elbow.

11.7 Offsets and Branch Fittings.

11.7.1 Changes in Direction. Changes in direction of drainage

piping shall be made by the appropriate use of approved or listed fittings, and shall be of the following angles:

11½, 22½, 45, 60 or 90 degrees; or other approved or listed fittings, or combination of fittings with equivalent radius or sweep.

11.7.2 Horizontal to Vertical. Horizontal drainage lines, connecting with a vertical pipe, shall enter through 45-degree "Y" branches, 60-degree "Y" branches, long-turn "TY" branches, sanitary "T" branches, or other approved or listed fittings or combination of fittings having equivalent sweep. No fitting having more than one branch at the same level shall be used, unless the fitting is constructed so that the discharge from any one branch cannot readily enter any other branch.

11.7.3 Horizontal to Horizontal and Vertical to Horizontal. Horizontal drainage lines connecting with other horizontal drainage lines or vertical drainage lines connected with horizontal drainage lines shall enter through 45-degree "Y" branches, long-turn "TY" branches, or other approved or listed fittings or combination of fittings having equivalent sweep.

Exception: A short-turn "TY" may be used as a final termination if it is mounted directly to a full-way termination valve on one side and has a quick disconnect on the other.

11.8 Slope of Horizontal Drainage Piping. Horizontal drainage piping shall be run in practical alignment and have a uniform slope of not less than one-quarter inch (¼") per foot toward the recreational vehicle main drain outlet. Where it is impractical, due to the structural features or arrangement of any recreational vehicle, to obtain a slope of one-quarter inch (¼") per foot, the pipe or piping may have a slope of not less than one-eighth inch (⅛") per foot, when a full size cleanout is installed at the upper end.

11.9 Waste Holding Tank. Vehicles equipped with a waste-holding tank and a toilet shall have a mechanical seal or recirculating chemical toilet.

11.9.1 Toilet connections shall be three inch (3") minimum pipe size and shall extend vertically. The inlet fitting may extend downward into the tank not more than one and one-half inches (1½"). The toilet connection shall be designed to receive or conform in an approved shape to a closet flange of standard dimensions or other approved fitting.

11.9.2 Drain opening shall be a three inch (3") minimum pipe size outlet located at the lowest point in the tank and shall be fitted with a fullway valve.

11.9.3 Fullway valves referred to in 11.9.2 shall be designed for manual operation from outside the recreational vehicle and have no extension or activating device within the vehicle.

11.9.4 The tank shall be vented at the highest point in the top of the tank by one of the following methods:

a. A one and one-quarter inch ($1\frac{1}{4}$ ") minimum diameter individual vent pipe extending undiminished in size through the roof.

b. A continuous vent serving as a drain from one additional fixture provided the drain portion is increased one pipe size larger than the connected trap arm.

c. Two or more vented drains when at least one is wet-vented and each drain is separately connected to the top of the tank.

11.9.5 Waste holding tanks shall be securely installed in such locations as to be removable for service, repair, or replacement without the necessity of removing permanent structural, mechanical, or electrical installations.

11.10 Detachable Waste Holding System. A recreational vehicle having a sink as its only plumbing fixture may have all its liquid waste discharge into a detachable waste holding tank.

11.10.1 The fixture strainer or tailpiece shall be permanently connected by five-eighth inch ($\frac{5}{8}$ ") minimum inside diameter listed drain pipe or listed flexible tubing to an inlet valve.

11.10.2 The fixture drain shall have a trap formed by an extension of the inlet pipe, of the detachable waste holding tank. The trap shall be so designed as to become effective when the tank contains liquid equal to no more than ten per cent (10%) of the capacity of the tank.

11.10.3 The inlet of the detachable waste holding tank shall have an attached cap for use during storage and/or transport of the tank.

11.10.4 Detachable waste holding tanks with an integral trap shall be vented by a minimum opening of three-sixteenth inch ($\frac{3}{16}$ ") diameter.

11.10.5 Detachable waste holding tanks with an integral trap shall be so designed as to prevent connection of the inlet valve to the tank unless the integral trap is installed.

11.10.6 Detachable waste holding tanks shall be so designed as to allow emptying only through the inlet or the vent.

12. Vents and Venting

12.1 General. Each plumbing fixture trap shall be protected against siphonage and back pressure, and air circulation shall be ensured throughout all parts of the drainage system by means of vents installed in accordance with the requirements of this Section and/or as otherwise required by this Standard.

12.2 Materials.

12.2.1 Pipe. Vent piping shall be standard weight galvanized steel, galvanized wrought iron, brass, copper tube DWV, listed plastic, or other approved or listed materials in Table 1.

12.2.2 Fittings. Appropriate fittings shall be used for all changes in direction, size or shape, and where pipes are joined. The material and design of fittings shall conform to Table 1.

12.2.2.1 Listed rectangular tubing may be used for venting. Suitable listed transition fittings shall be used.

12.3 Size of Vent Piping.

12.3.1 Individual Vents. A one and one-quarter inch ($1\frac{1}{4}$ ") minimum diameter vent pipe shall be required for all individually vented fixtures with one and one-half inch ($1\frac{1}{2}$ ") or smaller traps. The continuous vent of wet-vented drainage systems shall be one and one-quarter inch ($1\frac{1}{4}$ ") minimum diameter.

12.3.2 Common Vent. When two fixture traps located within the distance allowed from their vent have their trap arms connected separately at the same level into an approved double fitting, an individual vent pipe may serve as a common vent without any increase in size.

12.3.3 Intersecting Vents. Where two or more vent pipes are joined together, no increase in size shall be required; however, the largest vent pipe shall extend full size through the roof.

12.4 Grades and Connections.

12.4.1 Horizontal Vents. Each vent shall extend vertically from its fixture "T", or point of connection with the waste piping to a point not less than six inches (6") above the extreme flood level of the fixture it is venting before offsetting horizontally or being connected with any other vent pipe. Vents for horizontal drains shall connect above the centerline of the drain piping ahead (downstream) of the trap. Where required by structural conditions, vent

pipng may offset below the rim of the fixture at the maximum angle or height possible.

12.4.2 Grade. Vents shall be level or so designed to drain back to the drainage system by gravity.

12.5 Vent Terminal.

12.5.1 Roof Extension. Each vent pipe which passes through the roof shall extend through its flashing, except as otherwise permitted in 11.6, and terminate vertically, undiminished in size, not less than two inches (2") above the roof. Vent openings shall not be less than 3 feet, 0 inch away from any motor-driven air intake that opens into habitable areas.

12.5.2 Flashing. The opening around each vent pipe shall be made watertight by an adequate flashing or flashing material.

13. Tests and Inspection (Plumbing)

13.1 Water Piping System. All pressure water piping in the water distribution system shall be subjected to a pressure test. The test shall be made by subjecting the system to air or water at 100 psi for 10 minutes without leakage or loss of pressure. An adequate and accurate pressure gage shall be used on all tests.

Exception: A recreational vehicle that has no plumbing fixtures other than a single compartment sink with a drain opening of not more than two inches (2") shall be tested a minimum of 3 minutes.

13.2 Drainage and Vent System and Plumbing Fixtures. The waste and vent system shall be subjected to one of the following tests without evidence of leaks.

13.2.1 Water Test. Before plumbing fixtures are connected, all of the openings into the piping shall be plugged and the entire piping system subjected to a static water test for 15 minutes by filling it with water to the top of the highest vent opening.

13.2.2 Air Test. After all fixtures have been installed, the traps filled with water, and the remaining openings securely plugged, the entire system shall be subjected to a two inch (2") (manometer) water column air pressure test.

13.2.3 Flood Level Test. The recreational vehicle shall be in a level position; all fixtures shall be connected, and the entire system shall be filled with water to the flood level rim of the toilet bowl. (Tub and shower drains should be plugged.) After all trapped air has been released, the test shall be sustained for not less than 15 minutes. The waste piping above the level of the toilet shall be tested and show no indication of leakage when the high fixtures are filled with water and emptied simultaneously to obtain the maximum possible flow in the drain piping.

13.3 Fixture Test. The plumbing fixtures and connections shall be subjected to a flow test by filling them with water and checking for leaks and retarded flow while they are being emptied.

13.3.1 Shower Stalls. Shower stalls and receptors shall be tested for leaks prior to being covered by finished material. Each pan shall be filled with water to the top of the dam for not less than 15 minutes.

APPENDIX TO PART I

Applicable Standards

Table 3. Standards for Pipe & Fittings

Description	ANSI	ASTM	FS	Other
<i>Nonmetallic Pipe and Fittings</i>				
Threaded Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe Fittings, Schedule 80 ¹	None	D 2465-68	None	NSF Std. 14
Socket-Type Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe Fittings Schedule 40 ¹	None	D 2468-68	None	NSF Std. 14
Socket-Type Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe Fittings, Schedule 80 ¹	None	D 2469-68	None	NSF Std. 14
Standard Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe	B16.27-67	D 2609-68	None	NSF Std. 14
Standard Specification for Polyethylene (PE) Plastic Tubing	None	D2737-68aT	None	NSF Std. 14
Polybutylene (PB) Plastic Pipe (SDR-PR)	None	D2662-68	None	NSF Std. 14
Polybutylene (PB) Plastic Tubing	None	D2666-68	None	NSF Std. 14
ABS Plastic Pipe (SDR-PR and Class T)	B72.3-67	D1527-68 D2282-68	None	NSF Std. 14 CS 254-63
Flexible Polyethylene Plastic Pipe (SDR-PR)	B72.1-67	D2477-68 D2104-68 D2239-68	L-P-315a-1966	CS 255-63 NSF Std. 14
Polyethylene Pipe, Nonpressure	None	None	None	IAPMO TSC 7-62
Polyvinyl Chloride (PVC) Plastic Pipe (SDR-PR and Class T)	B72.2-67	D2241-68	None	CS 256-64 NSF Std. 14
Chlorinated Polyvinyl Chloride (CPVC) Pipe, Fittings, Solvent Cement and Adhesives for Potable Hot Water Systems	None	D2846-69	None	NSF Std. 14

Description	ANSI	ASTM	FS	Other
<i>Nonmetallic Pipe and Fittings (Continued)</i>				
Acrylonitrile-Butadiene-Styrene (ABS) Plastic Drain, Waste, and Vent Pipe and Fittings	None	D2661-68	L-P-322a-1966	CS 270-65 IAPMO PS-17-66 NSF Std. 14
Thermoplastic Materials, Pipe, Fittings, Valves, Traps and Joining Materials	None	None	None	NSF Std. 14
ABS Plastic Pipe Installation Standard	None	None	None	IAPMO IS 5-66
Solvent Cements for ABS Plastic Pipe and Fittings	None	D2235-67	None	NSF Std. 14
<i>Nonferrous Pipe and Fittings</i>				
Brass Fittings for Flared Copper Tube	B16.26-1967	None	None	None
Seamless Brass Tube	H36.1-1967	B16.57	WW-T-791(1)-1933	None
Seamless Red Brass Pipe	H27.1-1967	B43-66	WW-P-351a-1963	None
Brass or Bronze Flanges and Flanged Fittings, 150 and 300 Lbs.	B16.24-1962	None	None	None
Brass or Bronze Screwed Fittings, 125 and 250 Lbs.	B16.15-1964	None	WW-P-460c-1967	None
Cast-Bronze Solder-Joint Pressure Fittings	B16.18a-1967	None	None	None
General Requirements for Wrought Seamless Copper and Copper Alloy Pipe and Tube	H23.4-1967	B251-68a	None	None
Welded Red Brass (Copper Alloy 230) Water Tube	None	None	None	IAPMC PS 28-69
Welded Red Brass (Copper Alloy 230) Drainage Tube	None	None	None	IAPMO PS 29-69
Cast-Bronze Solder-Joint Drainage Fittings	B16.23-1960	None	None	None
Copper Pipe, Seamless, Standard Sizes	H26.1-1967	B42-66	WW-P-377d-1962	None
Copper Pipe, Threadless (TP)	H26.2-1967	B302-66a	None	None

Description	ANSI	ASTM	FS	Other
<i>Nonferrous Pipe and Fittings (Continued)</i>				
Seamless Copper Tube	H23.3-1967	B75-68	WW-T-797c-1963	None
Copper Water Tube, Types K, L, M	H23.1-1967	B88-66a	WW-T-799c-1967	None
Copper Drainage Tube, Type DWV	H23.6-1967	B306-66a	None	CS 229-60
Copper (Wrought) and Wrought Bronze Solder Joint Fittings	B16.22-1963	None	None	None
Flexible Copper Water Connectors	None	None	None	IAPMO PS 14-66
Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings	B16.29-1966	None	None	None
Pipe Nipples; Brass, Copper, Steel and Wrought Iron	None	None	WW-N-351b-1967	None
Unions, Brass or Bronze, 250 Lbs.	None	None	WW-U-516a-1967	None
Pipe Fittings, Bronze and Ferrous (Bushings, Plugs and Locknuts); Threaded	None	None	WW-P-471a (2)-1964	None
<i>Ferrous Pipe and Fittings</i>				
Cast Iron Soil Pipe and Fittings, Extra Heavy and Service Weights	A112.5.1-1968	A74-66	WW-P-401c-1967	CS 188-66
Cast Iron Water Pipe	A21.6-1964 & A21.8-1963	None	WW-P-421c-1967	None
Cast Iron Pipe, Drainage, Vent and Waste	None	None	WW-P-356a-1967	None
Cast Iron Pipe, Pressure (50 Lbs.) (Water)	None	None	WW-P-360a-1959	None

Description	ANSI	ASTM	FS	Other
<i>Ferrous Pipe and Fittings (Continued)</i>				
Cast Iron (Threaded) Pipe	A40.5-1943	None	WW-P-356a-1967	None
Cast Iron (Threaded) Fittings	B16.4-1963	None	WW-P-501d-1967	None
Cast Iron Drainage Fittings	B16.12-1965	None	WW-P-491b-1967	IAPMO PS-5-66
Galvanized Pipe and Fittings	None	None	WW-P-406b-1968	None
Malleable Iron Fittings (Threaded), 150 and 300 Lbs.	B16.3-1963	None	WW-P-521e-1964	None
Steel Pipe (Seamless and Welded, Black and Zinc Coated)	B36.1-1966 & B36.2-1966	A53-65	WW-P-404c(2)-1965	None
Stainless Steel Pipe	B36.19-1965	None	None	None
Union, Pipe Steel, or Malleable Iron, Threaded Pipe Connection 250 psi, WSP, 500 psi WOG (Cold, Nonshock)	None	None	WW-U-531c-1965	None
Unions: Malleable Iron or Steel, 300 Lbs.	None	None	WW-U-536(1)-1933	CS7-29
Wrought-Iron Pipe	E36.2-1966	A72-68	WW-P-441c(2)-1968	None
Valves, Cast iron, Gate, 125 and 250 Lbs. Threaded and Flanged	None	None	WW-V-58a(1)-1966	None
Pipe Fittings, Bronze and Ferrous (Bushings, Plugs and Locknuts); Threaded	None	None	WW-P-471a(2)-1964	None
Nipples, Pipe, Threaded	None	None	WW-N-351b-1967	CS 5-65

Table 4
Valves and Controls

Description	ANSI	ASTM	FS	Other
Backflow Preventers in Plumbing Systems	A40.6-1943	None	None	IAPMO TSC-8-63
Valve, Bronze, Gate 125-150 Lbs.	None	None	WW-V-54c-1966	None
Valve, Cast Iron Gate	None	None	WW-V-58a-1966	None
Valves, Technical	None	None	None	NSF Std. 24
Relief Valves and Automatic Gas Shut-off Devices for Hot Water Supply Systems	Z21.22a-1965	None	None	None
Combination Check and Relief Valve	None	None	None	IAPMO TSC-8-66
Pressure Reducing and Regulating Valves	None	None	None	IAPMO PS 15-66
Valves, Bronze; Angle, Check and Globe, 125 and 150 Lbs., Threaded and Flanged	None	None	WW-V-51d-1967	None
Air Gaps in Plumbing Systems	A40.4-1942	None	None	IAPMO PS 23-66

Table 5
Plumbing Fixtures & Miscellaneous

Description	ANSI	ASTM	FS	Other
<i>Plumbing Fixtures</i>				
Enameled Cast-Iron Plumbing Fixtures	None	None	None	None
Formed Metal, Porcelain-Enameled Sanitary Ware	None	None	None	NBS PS 5-66
Gel-Coated Glass-Fiber Reinforced Polyester Resin Bathtub	Z124.1-1967	None	None	None
Gel-Coated Glass-Fiber Reinforced Polyester Resin Shower Receptor and Shower Stall Units	Z124.2-1967	None	None	None
Plumbing Fixtures for Land Use	None	None	WW-P-541b(6)-1963	None
Prefabricated Shower Receptors and Stall Showers	None	None	None	IAPMO TSC-11-64 NSF Std. 24
Stainless Steel Plumbing Fixtures Designed for Residential Use	None	None	None	CS 243-62
Vitreous China Plumbing Fixtures	None	None	None	CS 20-63
Thermoplastic Lavatory and/or Lavatory Countertop Combinations	None	None	None	IAPMO TSC-16-67T
Mechanical Seal Toilet	None	None	None	IAPMO TSC-1-67 NSF Std. 24
Recirculating Chemical Toilet	None	None	None	IAPMO TSC-12-66 NSF Std. 24
Waste Holding Tanks	None	None	None	IAPMO TSC-2-1960 NSF Std. 24
Water Pumps — Hand-Electric	None	None	None	IAPMO TSC-14-66 NSF Std. 24

Description	ANSI	ASTM	FS	Other
<i>Plumbing Fixtures (Continued)</i>				
Water Storage Tanks	None	None	None	IAPMO TSC-4-1960 NSF Std. 24
Water Heaters, Gas Fired	Z21.10.1-1966	None	None	None
Detachable Waste Holding System	None	None	None	NSF Std. 24
Nonmetallic Prefabricated Combination Tank and Shower Pan Units for Recreational Vehicles	None	None	None	IAPMO TSC 17-69T
<i>Miscellaneous</i>				
Closet Flange	None	None	None	IAPMO TSC-5-63
Fixture Setting Compound	None	None	HH-C-536a-1954	IAPMO PS-20-65
Hand Actuated, Nonpressure Water Pump	None	None	None	IAPMO TSC-15-1966
Pressure Caps	None	None	None	IAPMO TSC-13-1966
Pressure Pumps and Systems	None	None	None	IAPMO TSC-14-1966
Tubing "P" Traps (20" Length Minimum)	None	None	None	IAPMO PS-2-66

Notes to Tables 3, 4 and 5

Abbreviations used in Tables 3, 4 and 5 refer to standards as identified below and elsewhere in this Standard.

ANSI: American National Standards published by the *American National Standards Institute*, 1430 Broadway, New York, New York 10018. (Formerly American Standards Association and United States of America Standards Institute.)

ASME: Standards and Tentative Standards published by the *American Society of Mechanical Engineers*, 345 East 47th Street, New York, New York 10010.

ASTM: Standards and Tentative Standards published by the *American Society for Testing and Materials*, 1916 Race Street, Philadelphia, Pennsylvania 19103.

CS: Commercial Standards representing recorded voluntary recommendations of industry, issued by the *United States Department of Commerce* and obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402.

FS: Federal Specifications published by the *Federal Specifications Board* and obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402.

IAPMO: Standards and Tentative Standards TSC and UPC sponsored by *International Association of Plumbing and Mechanical Officials*, 5032 Alhambra Avenue, Los Angeles, California 90032. (Formerly Western Plumbing Officials Association.)

NBS PS: National Bureau of Standards (United States Department of Commerce), Product Standard and obtainable from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

NSF: Standards published by the *National Sanitation Foundation*, 2355 W. Stadium Boulevard, P.O. Box 1468, Ann Arbor, Michigan. 48106.

Part II — Heating Systems

1. Introduction

1.1 Those members of the engineering profession and others associated with the design, manufacturing, installation, and inspection of recreational vehicle heating systems have been aware of the need for uniform technical standards leading to the safe use of this special type of equipment and related systems. They have also recognized that, because of conditions of transport and use, existing heating equipment standards for motor vehicles or for buildings are not completely applicable to recreational vehicles. It is with these factors in mind that Part II of this Standard has been developed.

1.2 Much of the material in Part II has been based on nationally recognized standards for heat producing appliances and fuel supply systems, including standards listed in the Appendix of this Part.

2. Scope

2.1 Part II of this Standard covers the heat producing appliances and fuel supply systems within or on recreational vehicles.

2.2 This Standard is not intended as a design specification or an instruction manual for untrained persons.

2.3 Wherever nationally recognized standards for heat producing appliances and fuel supply systems and this Part differ, the requirements of the latter shall apply.

2.4 The provisions of this Standard are not intended to prevent the use of any material, appliance, installation, device, arrangement, or method of construction not specifically prescribed herein, provided any such alternative has been approved or listed. The enforcement authority shall approve such alternate if the material, appliance, installation, device, arrangement, or method of construction is at least the equivalent of that prescribed by this Part, and may require tests or proof of compliance to substantiate any claims that may be made regarding the use of any such alternate.

3. Definitions

Accessible: When applied to a fixture connection, appliance, or equipment shall mean having access thereto, but which may require the removal of an access panel, door or similar obstruction.

Air Duct: Conduits or passageways for conveying air to or from heating, cooling, air conditioning or ventilation equipment, but not including the plenum.

Appliance Branch Piping: Any run of piping or tubing, and fittings, not a part of an appliance, that is used to convey fuel from the main piping manifold to a fuel-burning appliance.

Approved: Means acceptable to the authority having jurisdiction.

Automatic Pump (Oil Lifter): A pump, not an integral part of the oil-burning appliance, that automatically pumps oil from the supply tank and delivers the oil by gravity under a constant head to an oil-burning appliance.

BTU. British Thermal Unit: The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit.

BTUH. British Thermal Units per Hour:

Burner: A device for the final conveyance of fuel or a mixture of fuel and air to the combustion zone.

Certified: Means "listed" as defined herein.

Clearance: The distance between the appliance, chimney, vent, chimney or vent connector or plenum and the nearest surface.

Connection — Gas Supply: The terminal end or connection to which a gas supply connector is attached.

Connector — Gas Appliance: A listed connector used to convey fuel gas between a gas outlet and a gas appliance.

Connector — Gas Supply: Tubing or pipe connecting the recreational vehicle to the gas supply source.

Control, Primary Safety: The automatic safety control intended to prevent the abnormal discharge of fuel at the burner in case of ignition failure or flame failure.

Fuel System: Any arrangement of pipe, tubing, fittings, connectors, tanks, controls, valves, and devices designed and intended to supply or control the flow of fuel to the appliance(s).

Heat Producing Appliance: All heating and cooking appliances and all fuel-burning appliances.

Heating Appliance: An appliance for comfort heating of a recreational vehicle or for water heating.

Labeled: Equipment or materials to which has been attached a label, symbol, or other identifying mark of a nationally recognized testing laboratory that maintains periodic inspection of production of labeled equipment or materials and by whose labeling is indicated compliance with nationally recognized standards or tests to determine suitable usage in a specified manner.

Liquefied Petroleum Gases: The terms "liquefied petroleum gases," "LPG" and "LP-gas" as used in this Standard shall mean and include any material that is composed predominantly of any of the following hydrocarbons, or mixtures of them: propane, propylene, butanes (normal butane or isobutane), and butylenes.

Listed: Equipment or materials included in a list published by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

Main Gas Piping Manifold: Gas piping which conveys gas from the gas supply connection to the first appliance branch piping.

Plenum: Air compartment or chamber to which one or more ducts are connected and which forms part of either the supply or return air systems.

Roof Jack: That portion of a venting system, including the cap, insulating means, flashing, and ceiling plate, located in and above the roof.

Safety Shutoff Device: A device that will shut off the gas supply to the controlled burner(s) in the event the source of ignition fails. This device may interrupt the flow of gas to main burner(s) only or to pilot(s) and main burner(s) under its supervision.

4. Fuel Supply Systems

4.1 LP-Gas Containers.

4.1.1 Maximum Capacity. When LP-Gas containers are provided, a recreational vehicle shall have:

a. Not more than two non-permanently mounted containers having maximum individual water capacities of 105 lbs. (approximately 45 lbs. LP-gas capacity), or

b. Not more than two permanently mounted containers having maximum total water capacity of 478 lbs. (approximately 200 lbs. LP-gas capacity).

4.1.2 Construction of Containers. Containers shall be constructed and marked in accordance with the specifications for LP-gas containers of the U.S. Department of Transportation (DOT) or the Rules for Construction of Unfired Pressure Vessels, Section VIII, Division 1, ASME Boiler and Pressure Vessel Code. ASME Containers constructed after December 31, 1967 shall have a design pressure of at least 312.5 psig.

4.1.3 Location of Containers.

4.1.3.1 LP-gas containers shall not be installed, nor shall provisions be made for installing or storing any LP-gas container, even temporarily, inside any recreational vehicle except for listed, completely self-contained hand torches, lanterns, or similar equipment with containers having a maximum water capacity of not more than 2½ pounds.

4.1.3.2 LP-gas containers with their control valves and pressure regulators shall be installed in compliance with one of the following:

a. In a recess or compartment that is vapor-tight to the inside of the recreational vehicle.

b. Mounted on the tongue of a travel or camping trailer as close to the hitch as practicable.

c. Mounted on the chassis of a motor home or chassis-mount camper, provided neither the container nor its support extends below the frame if the container is located ahead of the front axle or behind the rear axle of the recreational vehicle. Containers mounted elsewhere on the frame of a motor home or chassis-mount camper shall be installed in such a manner that the bottom of the tank and any connection thereto shall not be lower than the lowest horizontal axis of the nearest vehicle axle when the vehicle is fully loaded.

4.1.3.3 Container or container carriers shall be secured in place on the recreational vehicle by fastenings designed and constructed with a minimum safety factor of four, to withstand loading in any direction equal to twice the filled weight of the container, providing an overall safety factor of eight.

4.1.4 Container Enclosures.

4.1.4.1 Compartments shall be ventilated at or near the top and at the extreme bottom to facilitate diffusion of vapors. The compartment shall be ventilated with at least two vents having an aggregate free area equal to one square inch for each 7 lbs. of the total LP-gas fuel capacity of the container(s). The vents shall be equally distributed between the floor and ceiling of the compartment. If the lower vent is located in the access door or wall, the bottom edge of the vent shall be flush with the floor level of the compartment. The top vent shall be located in the access door or wall with the bottom of the vent within 12 inches of the ceiling of the compartment. Vents shall have an unrestricted discharge to the outside atmosphere. Access doors or panels of compartments shall not be equipped with locks or require special tools to open.

4.1.4.2 Doors, hoods, domes, housings (or portions of housings), and enclosures required to be removed or opened for replacement of containers shall incorporate means for clamping them firmly in place and to prevent them from working loose during transit.

4.1.5 Container Valves and Accessories.

4.1.5.1 Valves in a two-container assembly system shall be arranged so that replacement of containers can be made without shutting off the flow of gas to the appliance(s).

NOTE: This provision is not to be construed as requiring an automatic changeover device.

4.1.5.2 Container shutoff valves shall be protected as follows:

- a. By setting into a recess of the container to prevent possibility of their being struck if container is dropped upon a flat surface, or
- b. By a ventilated cap or collar, fastened to the container, capable of withstanding a blow from any direction equivalent to that of a 30-pound weight dropped 4 feet. Construction must be such that the blow will not be transmitted to the valve.

4.1.5.3 Regulators shall be connected directly to the container shutoff valve outlets or mounted securely by means of a support bracket and connected to the container shutoff valve or valves with listed high pressure flexible connections. In the case of permanently mounted containers, listed semi-rigid tubing connections may be used.

4.1.6 Safety Devices.

4.1.6.1 DOT containers shall be provided with safety relief devices as required by the regulations of the U.S. Department of Transportation. ASME containers shall be provided with relief valves in accordance with Basic Rule B.10 of ANSI Standard for the Storage and Handling of Liquefied Petroleum Gases (ANSI Z106.1 — 1969, NFPA No. 58 — 1969). Safety relief valves shall have direct communication with the vapor space of the vessel.

4.1.6.2 The delivery side of the gas pressure regulator shall be equipped with a safety relief device set to discharge at a pressure not less than two times and not more than three times the delivery pressure of the regulator.

4.1.6.3 Systems installed outside of a recreational vehicle shall be so located that discharge from safety relief devices shall be not less than three feet (3') horizontally away from any opening into the recreational vehicle below the level of such discharge. When a system is located in a recess vaportight to the inside, vent openings in such recess shall be not less than three feet (3') horizontally away from any opening into the recreational vehicle below the level of these vents.

4.1.7 System Design and Service Line Pressure.

4.1.7.1 Systems shall be of the vapor-withdrawal type.

4.1.7.2 Vapor, at a pressure not over eighteen inches (18") water column, shall be delivered from the system into the gas supply connection.

4.1.7.3 Container openings for vapor withdrawal shall be located in the vapor space when the container is in service or shall be provided with a suitable internal withdrawal tube which communicates with the vapor space in or near the highest point in the container when it is mounted in service position, with the vehicle on a level surface. Containers shall be permanently and legibly marked in a conspicuous manner on the outside to show the correct mounting position and the position of the service outlet connection. The method of mounting in place shall be such as to minimize the possibility of an incorrect positioning of the container.

4.2 Oil Tanks.

4.2.1 Installation. Oil tanks installed for gravity flow of oil to heating equipment shall be installed so that the top of the tank is no higher than eight feet (8') above the appliance oil control and the bottom of the tank is no less than eighteen inches (18") above the appliance oil control. Listed automatic pumps (oil lifter) shall

be mounted no higher than eight feet (8') above the appliance oil control and not less than eighteen inches (18") above the appliance oil control.

4.2.2 Oil Supply Tank. Oil supply tanks affixed to a recreational vehicle shall be so located as to require filling and draining on the outside and shall be securely fastened in position in a place readily available for inspection.

4.2.3 Tank Compartment. If the fuel supply tank is located in a compartment of a recreational vehicle, the compartment shall be ventilated at the bottom to permit diffusion of vapors and shall be insulated from the structural members of the body. Tanks so installed shall be provided with an outside fill and vent pipe and an approved liquid level gauge.

4.2.4 Shutoff Valve. A readily accessible, approved manual shutoff valve shall be installed at the outlet of an oil supply tank. The valve shall be installed to close against the supply.

4.2.5 Fuel Oil Filters. All oil tanks, except for integrally mounted tanks, shall be equipped with an approved oil filter or strainer located downstream from the tank shutoff valve. The fuel oil filter or strainer shall contain a sump with a drain for the entrapment of water.

5. Piping Systems

5.1 Gas Piping Systems.

5.1.1 General. The requirements of this section shall govern the installation of all fuel gas piping attached to any recreational vehicle. None of the requirements listed in this Section shall apply to the piping supplied as a part of an appliance.

5.1.2 Materials. Materials used for the installation, extension, alteration, or repair of any gas piping system shall be new and free from defects or internal obstructions. It shall not be permissible to repair defects in gas piping or fittings. Inferior or defective materials shall be removed and replaced with acceptable material. The system shall be made of materials having a melting point of not less than 1,450° Fahrenheit, except as provided in 5.1.5 and 5.1.6, or of materials (used in piping or fittings) listed for the specific use intended. They may consist of one or more of the following materials, or any other material used in listed gas piping or fittings.

5.1.2.1 Gas pipe shall be steel or wrought-iron pipe complying with the American National Standard Wrought-Steel and Wrought-Iron Pipe, B36.10 — 1959. Threaded copper or brass pipe in iron pipe sizes may be used.

5.1.2.2 Fittings for gas piping shall be wrought iron, malleable iron, steel, or brass (containing not more than 75 percent copper).

5.1.2.3 Copper tubing shall be annealed Type K or L, conforming to ASTM B88-66, or shall comply with the Specifications for Seamless Copper Tube for Refrigeration Field Service, ASTM B280-66. When used on systems designed for natural gas, such tubing shall be internally tinned.

5.1.2.4 Seamless brass tubing shall be composed of not more than 75 percent copper (cartridge brass 70 percent) and shall have a minimum thickness of 0.030 inch.

5.1.2.5 Steel tubing shall have a minimum wall thickness of 0.049 inch, conforming to ASTM A539-65, and be externally corrosion protected.

5.1.2.6 Flexible non-metallic tubing shall be part of an assembly which is listed for the use intended.

5.1.3 Piping Design. Each recreational vehicle requiring fuel gas for any purpose shall be equipped with a fuel gas piping system that is designed for LP-gas only or with a natural gas piping system acceptable for LP-gas.

5.1.4 Gas Pipe Sizing. Gas piping systems shall be sized so that the pressure drop to any appliance inlet connection from the gas supply connection or connections, when all appliances are in operation at maximum capacity, is not more than 0.5 inch water column when used with natural gas if the system is designed for both natural and LP-gas, or when used with LP-gas if the system is designed for LP-gas only. Conformance may be determined on the basis of test, or the gas piping system may be sized in accordance with Table 6 or other approved method. The natural gas supply connection shall be not less than three-quarter inch ($\frac{3}{4}$ " nominal pipe size).

5.1.5 Joints for Gas Pipe. Pipe joints in the piping system, unless welded or brazed, shall be screw joints that comply with American National Standard Pipe Threads (except Dryseal) B2.1 — 1960. Right and left nipples or couplings shall not be used. Unions, if used, shall be of the ground joint type. The material used for welding or brazing pipe connections shall have a melting temperature in excess of 1,000° Fahrenheit.

Table 6
Sizing of Low-Pressure Gas Piping Systems

COMBINATION LP-GAS — NATURAL GAS SYSTEM			LP-GAS-ONLY SYSTEM		
(Based on a Total Pressure Drop of 1/2 in. H ₂ O)			(Based on a Total Pressure Drop of 1/2 in. H ₂ O)		
Main Gas Manifold			Main Gas Manifold		
Total Appliance Input Name Plate Rating	Nominal Pipe Size (Inches)		Total Appliance Input Name Plate Rating	Nominal Pipe Size (Inches)	Tube o.d. (Inches)
No more than:			No more than:		
7,000 Btu/hr	1/4		11,000 Btu/hr	1/4	3/8
27,000 Btu/hr	3/8		42,000 Btu/hr	3/8	1/2
56,000 Btu/hr	1/2		88,000 Btu/hr	1/2	5/8
115,000 Btu/hr	3/4		183,000 Btu/hr	3/4	
220,000 Btu/hr	1		340,000 Btu/hr	1	
Branch Take-Offs			Branch Take-Offs		
Individual Appliance Input Name Plate Rating	Nominal Pipe Size (Inches)	Tube o.d. (Inches)	Individual Appliance Input Name Plate Rating	Nominal Pipe Size (Inches)	Tube o.d. (Inches)
No more than:			No more than:		
25,000 Btu/hr		3/8	2,500 Btu/hr		1/4
31,000 Btu/hr	1/4		39,000 Btu/hr		3/8
49,000 Btu/hr		1/2	49,000 Btu/hr	1/4	
64,000 Btu/hr	3/8		77,000 Btu/hr		1/2
95,000 Btu/hr		3/4	100,000 Btu/hr	3/8	
120,000 Btu/hr	1/2		150,000 Btu/hr		3/4
250,000 Btu/hr	3/4		190,000 Btu/hr	1/2	
			390,000 Btu/hr	3/4	

5.1.6 Tubing Joints. Tubing joints shall be made with a double flare of the proper degree or with connections, as recommended by the tubing manufacturer; by means of approved gas tubing fittings; or, joints may be brazed with material having a melting point exceeding 1,000° Fahrenheit. Metallic ball sleeve compression-type tubing fittings shall not be used.

5.1.7 Pipe Joint Compound. Screw joints shall be made up tight with approved pipe joint compound, insoluble in liquefied petroleum gas, and shall be applied to the male threads only.

5.1.8 Concealed Tubing. Tubing shall not be run inside walls, floors, partitions or roofs except that one-quarter inch ($\frac{1}{4}$ ") o.d. tubing may be concealed provided it is enclosed with a metallic covering of thickness equivalent to the thickness of the tubing enclosed. Where tubing passes through walls, floors, partitions, roofs, or similar installations, such tubing shall be protected by the use of grommets that shall snugly fit both the tubing and the hole through which the tubing passes.

5.1.9 Concealed Joints. Pipe or tubing joints shall not be located in any floor, wall, partition, or similar concealed construction space.

5.1.10 Location of Gas Supply Connection.

5.1.10.1 For LP-gas only systems the supply connection shall be located at the container location, or within fifteen feet (15') of the rear, on the left (road) side or at the rear, left of the longitudinal center of the vehicle, within eighteen inches (18") of the outside wall.

Exception: A camping trailer not more than seventeen feet (17') in length, a motor home or a truck camper may have the gas supply connection located on either side.

5.1.10.2 For natural gas or combination LP-gas and natural gas systems, the supply connection shall be located within fifteen feet (15') of the rear, on the left (road) side or at the rear, left of the longitudinal center of the vehicle, within eighteen inches (18") of the outside wall.

Exception: A camping trailer not more than seventeen feet (17') in length, a motor home or a truck camper may have the gas supply connection located on either side.

5.1.11 Identification of Gas Supply Connections. Each recreational vehicle shall have permanently affixed to the exterior skin at or near each gas supply connection or the end of the pipe, a tag of 3 inches by $1\frac{3}{4}$ inches minimum size, made of etched, metal-stamped or embossed brass, stainless steel, anodized or alclad aluminum not less than 0.020 inch thick, or other approved material (e.g., 0.005 inch plastic laminates), which reads (as appropriate) either:

a. THIS GAS PIPING SYSTEM IS DESIGNED FOR USE OF LIQUEFIED PETROLEUM GAS ONLY. DO NOT CONNECT NATURAL GAS TO THIS SYSTEM. Securely cap inlet(s) when not connected for use. After turning on gas, except after normal container replacement, test gas piping and connections to appliances for leakage with soapy water or bubble solution.

b. THIS GAS PIPING SYSTEM IS DESIGNED FOR USE OF EITHER LP-GAS OR NATURAL GAS. BEFORE TURNING ON GAS BE CERTAIN APPLIANCES ARE DESIGNED FOR THE GAS CONNECTED AND ARE EQUIPPED WITH CORRECT ORIFICES. Securely cap this inlet when not connected for use. After turning on gas, except after normal container replacement, test gas piping and connections to appliances for leakage with soapy water or bubble solution.

5.1.12 Warning Relative to Motor Fuel and LP-Gas Refueling — Motor Homes, Truck Campers. Each motor home or truck camper having exterior combustion air inlet(s) at a level below the roof shall have the following additional wording on the tag specified in 5.1.11:

WARNING: ALL PILOT LIGHTS AND APPLIANCES SHALL BE TURNED OFF DURING REFUELING OF MOTOR FUEL TANKS AND/OR PERMANENTLY MOUNTED LP-GAS CONTAINERS.

5.1.13 Gas Supply Connectors.

5.1.13.1 Natural Gas. A listed minimum one-half inch ($\frac{1}{2}$ " nominal (ID) gas supply connector, with three-quarter inch ($\frac{3}{4}$ " NPT terminal fittings, six feet in length, shall be supplied by the manufacturer when the fuel gas piping system is designed for the use of natural gas.

5.1.13.2 LP-Gas. A listed LP-gas flexible connector shall be supplied when the fuel gas piping system is designed for the use of LP-Gas and container(s) and regulator(.) are supplied.

5.1.14 Appliance Connections. All gas-burning appliances shall be connected to the fuel piping with materials as provided in 5.1.2 or with listed appliance connectors which do not pass through any wall, floor, ceiling or partition.

5.1.15 Valves. Shutoff valves and appurtenances used in connection with gas piping shall be of a type designed and approved for use on LP-gas.

5.1.16 Gas Inlet Cap. Suitable cap(s), to effectively close the gas inlet(s) when disconnected from the source of supply and not in use, shall be attached to the recreational vehicle.

5.1.17 Electrical Ground. Gas piping shall not be used for a grounding electrode (See Part III, 7.17.6 and 7.18.5).

5.1.18 Couplings. Where it is necessary to join sections of screw piping, right and left nipples and couplings shall not be used. Ground joint unions may be installed at appliance inlet connections.

5.1.19 Hangers and Supports. All gas piping shall be adequately supported by galvanized or equivalently protected metal straps or hangers at intervals of not more than 4 feet, except where adequate support and protection is provided by structural members. Solid-iron-pipe gas supply connection(s) shall be rigidly anchored to a structural member within six inches (6") of the supply connection(s).

5.1.20 Testing for Leakage

5.1.20.1 Before Appliances Are Connected. Piping systems shall stand a pressure of at least six inches (6") mercury or three (3) PSI gage for a period of not less than ten (10) minutes without showing any drop in pressure. Pressure shall be measured with a mercury manometer or slope gage, or an equivalent device, calibrated so as to be read in increments of not greater than one-tenth (1/10) PSI. The source of pressure shall be isolated before the pressure tests are made.

NOTE: Before a test is begun, the temperature of the ambient air and of the piping should be approximately the same, and constant air temperature should be maintained throughout the test.

5.1.20.2 After Appliances Are Connected. When appliances are connected to the piping system the entire system shall be pressurized to not less than ten inches (10") nor more than fourteen inches (14") water column and the appliance connections tested for leakage with soapy water or bubble solution.

5.2 Oil Piping Systems

5.2.1 General. The requirements of this section shall govern the installation of all liquid fuel piping attached to any recreational vehicle. None of the requirements listed in this Section shall apply to the piping in the appliance(s).

5.2.2 Materials. All materials used for the installation, extension, alteration, or repair of any oil piping system shall be new and free from defects or internal obstructions. The system shall be made of materials having a melting point of not less than 1,450° Fahrenheit except as provided in 5.2.4 and 5.2.5. They may consist of one or more of the following materials:

5.2.2.1 Pipe shall be steel or wrought-iron pipe complying with American National Standard Wrought-Steel or Wrought-Iron Pipe, B36.10 — 1959. Threaded copper or brass pipe in iron pipe sizes may be used.

5.2.2.2 Fittings for oil piping shall be wrought-iron, malleable iron, steel, or brass (containing not more than 75 percent copper).

5.2.2.3 Copper tubing shall be annealed Type K or L conforming to ASTM B-88-66 or shall comply with the specifications for Seamless Copper Tube for Refrigeration Field Service, ASTM E280 — 1966.

5.2.2.4 Seamless brass tubing shall have a minimum wall thickness of 0.030 inch.

5.2.2.5 Steel tubing shall have a minimum wall thickness of 0.049 inch, conforming to ASTM A539-65, and be externally corrosion protected.

5.2.3 Size of Oil Piping. The minimum size of all fuel oil tank piping connecting outside tanks to the appliance shall be not smaller than three-eighth inch ($\frac{3}{8}$ " o.d. copper tubing or one-quarter inch ($\frac{1}{4}$ " IPS. In those cases where No. 1 fuel is used with a listed automatic pump (fuel lifter), one-quarter inch ($\frac{1}{4}$ " o.d. copper tubing may be used if specified by the pump manufacturer.

5.2.4 Joints for Oil Pipe. All pipe joints in the piping system, unless welded or brazed, shall be screw joints which comply with American National Standard Pipe Threads (except Dryseal), B2.1 — 1960. The material used for welding or brazing pipe connections shall have a melting temperature in excess of 1,000° Fahrenheit.

5.2.5 Joints for Tubing. Joints on tubing shall be made with double flare of the proper degree, as recommended by the tubing manufacturer, by means of approved tubing fittings. Joints may be brazed with materials having a melting point in excess of 1,000° Fahrenheit.

5.2.6 Pipe Joint Compound. Screw joints shall be made up tight with approved pipe joint compound, or other approved material, which shall be applied to the male threads only.

5.2.7 Couplings. Where it is necessary to join sections of screw piping, right and left nipples and couplings shall not be used. Ground joint unions may be installed at appliance inlet connections.

5.2.8 Grade of Piping. Fuel oil piping installed in conjunction with gravity feed systems to oil heating equipment shall slope in a gradual rise upward from a central location to both the oil tank and the appliance in order to eliminate air locks.

5.2.9 Strap Hangers. All oil piping shall be adequately supported by galvanized or equivalently protected metal straps or hangers at intervals of not more than 4 feet, except where adequate support and protection is provided by structural members. Solid-iron-pipe oil supply connection(s) shall be rigidly anchored

to a structural member within six inches (6") of the supply connection(s).

5.2.10 Testing for Leakage. Before setting the system in operation, tank installations and piping shall be checked for oil leaks with fuel oil of the same grade that will be burned in the appliance. No other material shall be used for testing fuel oil tanks and piping. Tanks shall be filled to a maximum capacity for the final check for oil leakage.

6. Heat-Producing Appliances

6.1 General. Every heat-producing appliance used in recreational vehicles shall be listed by a nationally recognized testing laboratory for the application for which the appliance is intended. Fuel-burning appliances shall be specifically listed or labelled for installation in recreational vehicles.

6.2 Fuel Conversion. Fuel-burning appliances shall not be converted from one fuel to another unless converted in accordance with the terms of their listings.

6.3 Installations and Instructions.

6.3.1 The installation of each appliance shall conform to the terms of its listing as specified on the appliance and in the manufacturer's instructions. The installer shall provide the manufacturer's instructions in the recreational vehicle. Appliances shall be secured in place to avoid displacement and movement from vibration and road shock.

6.3.2 Operating instructions shall be provided with the appliance.

6.3.3 Fuel-burning heating appliances and refrigerators shall be of the vented-type and vented to the outside. In no case shall the vent of a gas-burning appliance terminate underneath the recreational vehicle.

6.3.4 Fuel-burning heat-producing appliances, except ranges and illuminating appliances, shall be designed or installed to provide for a complete separation of the combustion system from the atmosphere of the recreational vehicle. Combustion air inlets and flue gas outlets shall be listed or certified as components of the appliance.

6.3.5 A fuel-burning refrigerator shall be designed or installed to provide for complete separation of the combustion system from the atmosphere of the recreational vehicle. It shall be installed in accordance with the provisions of its approval and listing.

6.4 Venting.

6.4.1 Vents, roof jacks, and special fittings supplied as component parts of an appliance shall be installed in conformity with the terms of their listing. A single wall metal vent shall not be used unless it is a component part of a listed appliance.

6.4.2 Every joint of any vent or vent connector shall be secure, rigid, tight, and of approved design and workmanship.

6.5 Marking.

6.5.1 Information on clearances, input ratings, lighting and shutdown shall be attached to the appliances with the same permanence as the nameplate, and so located that it is easily readable when the appliance is properly installed.

6.5.2 Each fuel-burning appliance shall bear the appliance manufacturer's permanent marking designating the type(s) of fuel for which it is listed. If listed and installed for use with either LP-gas or natural gas, the appliance manufacturer's permanent instructions regarding conversion from one fuel to the other shall be supplied.

6.6 Accessibility. Every appliance shall be accessible for inspection, service, repair, and replacement without removing permanent construction. Sufficient room shall be available to enable the operator to observe the burner, control, and ignition means while starting the appliance.

6.7 Location. Heat-producing appliances shall be so located that doors, drapes, or other such material cannot be placed or swung closer to the front of the appliance than the clearances specified on the labelled appliances.

6.8 Clearances.

6.8.1 Clearances between heat-producing appliances and adjacent surfaces shall be not less than as specified in the terms of their listing. Clearance spaces shall be framed in or guarded to prevent creation of storage space within the clearance specified.

6.8.2 Ranges. Ranges shall have a vertical clearance between the cooking top and combustible material or metal cabinets, in accordance with Table 7 or the terms of their listings.

Table 7

Type of Protection Provided to Combustible Material or Metal Cabinets above Range	Top Burner Rating (BTUH)	Oven Burner Rating (BTUH)	Vertical Clearance Required above Range Top (inches)
1. No protection provided.	Any combination, number, or input.	Any	30
2. $\frac{1}{4}$ -inch thick minimum asbestos mill-board covered with 28 U.S. gauge sheet metal extending 9 inches beyond the sides of the range and covering the entire bottom of the material to be protected extending over the top of range. In lieu of 28 gauge sheet metal, a hood, 28 U.S. gauge sheet metal, may be used. Hood shall be not less than the width of the range and shall be centered over the range and cover the entire bottom of the material to be protected.	Any combination, number, or input.	Any	24
3. Range hood, 28 U.S. gauge, with minimum 2-inch vertical sides and provided with a bead or flange around top of hood to provide a minimum $\frac{1}{4}$ -inch dead air space between hood and protected material. Hood shall be not less than the width of the range and shall be installed centered over range and cover the entire bottom of the material to be protected extending over the top of range.	Not more than four top burners — input not to exceed 6,000 BTUH each.	10,000	19 $\frac{1}{2}$
	Not more than four top burners — input not to exceed 9,000 BTUH each.	24,000	20 $\frac{3}{4}$
	Two rear burners — inputs not to exceed 9,000 BTUH each and two front burners, inputs not to exceed 12,000 BTUH each.	22,000	23 $\frac{1}{2}$
4. Same as No. 3, except no dead air space clearance provided.	Not more than four burners — input not to exceed 9,000 BTUH each.	22,000	23

6.9 Ventilation.

6.9.1 The area in which any fuel-burning cooking appliance is located shall be ventilated by a gravity vent opening not less than twelve and one-half square inches (12.5 sq. in.) in cross-sectional area, located higher than the appliance, or, by mechanical ventilating equipment that is installed in accordance with the terms of its listing and the manufacturer's instructions. Gravity or mechanical ventilation shall be installed within a horizontal distance of not more than ten feet (10') from the vertical front of the appliance. Vent hood ducts shall be designed so that the duct outlet is located at such a point as to preclude the trapping of products of combustion. Ducts shall extend through the wall or roof to the outer air.

6.10 Air Ducts.

6.10.1 Material. Supply ducts shall be made of galvanized steel, tin-plated steel, or aluminum, or shall be listed Class I air ducts. A duct system integral with the structure may be acceptable if it is of durable construction that can be demonstrated to be equally resistant to fire and deterioration. Ducts constructed from sheet metal shall be in accordance with Table 8. Portions of return ducts directly above the heating surface of the appliance, or closer than 2 feet horizontally from the outer jacket or casing of the appliance, shall be constructed in accordance with the requirements of Table 8 or shall be listed Class I air ducts.

Table 8
Minimum Metal Thickness for Ducts*

	Diameter	or	Width
	14 inches or less		Over 14 inches
Round Exposed	0.013 in.		0.016 in.
Enclosed Rectangular or Round	0.013 in.		0.016 in.
Exposed Rectangular	0.016 in.		0.019 in.

*When "nominal" thicknesses are specified, 0.003 inch shall be added to these "minimum" metal thicknesses.

6.10.2 Sizing of Ducts. Ducts shall be designed so that when a labeled forced-air furnace is installed and operated continually at

its normal input rating in the recreational vehicle, with all registers in full open position, the static pressure measured in the duct plenum shall not exceed that shown on the label of the appliance. When an air-cooling coil is installed in the system, the total static pressure of the coil and the system shall not exceed that shown on the label of the appliance. The minimum dimension of any branch duct shall be at least one and one-half inches ($1\frac{1}{2}$ ") and of any main duct, two and one-half inches ($2\frac{1}{2}$ ").

6.10.3 Joints and Seams. Joints and seams of ducts shall be securely fastened and made substantially airtight. Slip joints shall have a lap of at least one inch (1") and shall be individually fastened. Tape or caulking compound may be used for sealing mechanically secure joints. Where used, tape or caulking compound shall not be subject to deterioration under long exposures to temperatures up to 200° Fahrenheit and to conditions of high humidity, excessive moisture, or mildew.

6.10.4 Airtightness of Supply Duct Systems. A supply duct system shall be considered substantially airtight when the static pressure in the duct system, with all registers sealed and with the furnace air circulator at high speed, is at least 80 percent of the static pressure measured in the furnace casing, with its outlets sealed and the furnace air circulator operating at high speed. Pressures shall be measured with a water manometer or equivalent device calibrated to read in increments not greater than one-tenth inch ($1/10$ ") water column.

6.10.5 Supports. Ducts shall be securely supported.

5.11 Circulating Air.

6.11.1 Return Air Openings. Provisions shall be made to permit the return of circulating air from all rooms and living spaces, except toilet room(s), to the circulating air supply inlet of the furnace.

6.11.2 Return Air Ducts. The cross-sectional area of the return air duct shall not be less than 2 square inches for each 1,000 Btu per hour input rating of the appliance. Dampers shall not be placed in any return air duct, except that a diverting damper may be placed in a combination fresh air intake and return air duct so arranged that the required cross-sectional area will not be reduced at all possible positions of the damper.

6.11.3 Permanent Unclosable Openings. Living areas not served by return air ducts and closed off from the return opening of the furnace by doors, sliding partitions, or other means, shall

be provided with permanent unclosable openings in the doors or separating partitions to allow circulated air to return to the furnace. Such openings may be grilled or louvered. The net free area of each opening shall be not less than one square inch (1 sq. in.) for every five square feet (5 sq. ft.) of total living area closed off from the furnace by the door or partition serviced by that opening. Under-cutting doors connecting the closed-off area may be used as a means of providing return air area. However, in the event that doors are undercut, they shall be undercut a minimum of two inches (2") and no more than two and one-half inches (2½") and no more than one-half of the free air area so provided shall be considered as return air area.

APPENDIX TO PART II

Applicable Standards

Table 9
Standards for Air Conditioning and Heat-Producing
Appliances and Equipment†

Type	ANSI (Formerly ASA, USASI)	UL	Other
<i>Appliances</i>			
Liquid Fuel-Burning Heating Appliances for Mobile Homes and Recreational Vehicles.....		307(a) 1965	
Gas-Heating Appliances for Mobile Homes and Recreational Vehicles.....	Z21.44-1968* Z21.47-1968 Z21.48-1968*	307(b) 1965	
Clothes Dryers (Gas-Fired)....	Z21.5.1-1966	307(b) 1965	
Gas-Fired Gravity and Forced Air Central Furnaces.....	Z21.47-1968		
Gas-Fired Gravity and Fan Type Floor Furnaces.....	Z21.48-1968*		
Gas-Fired Gravity and Fan Type Sealed Combustion System Wall Furnaces.....	Z21.44-1968*		
Gas-Fired Illuminating Appliances.....	Z21.42-1963	307(b) 1965	
Domestic Gas Ranges, Free Standing.....	Z21.1.1-1968*	307(b) 1965	
Domestic Gas Ranges, Built-in Domestic Cooking Units....	Z21.1.2-1968*	307(b) 1965	
Refrigerators Using Gas-Fuel	Z21.19-1966*	307(b) 1965	
Automatic Storage Type Water Heaters with Input Less than 50,000 BTUH.....	Z21.10.1-1966	307(b) 1965	
Incinerator, Domestic Gas Fired (toilets).....	Z21.6-1968*		NSF-No. 24
<i>Ferrous Pipe and Fittings</i>			
Black and Hot Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses.....	B36.20-1966		ASTM A120-68 WW-P-406b (2) '68

Type	ANSI (Formerly ASA, USASI)	UL	Other
<i>Ferrous Pipe and Fittings (Continued)</i>			
Pipe Threads	B2.1-1968		
Wrought-Steel and Wrought-Iron Pipe	B36.10-1959		
<i>Nonferrous Pipe, Tubing and Fittings</i>			
Seamless Copper Water Tube	H23.1-1967		ASTM B88-66
Seamless Copper Tube for Air Conditioning and Refrigeration Field Service	H23.5-1967		ASTM B280-66
Metal Connectors for Gas Appliances	Z21.24-1968*		
Manually Operated Gas Valves	Z21.15-1966*		
Mobile Home Gas Connectors (Flexible Metal — Plastic Coated)			IAPMO-TSC-9-63
Seamless Copper and Copper Alloy Pipe and Tube	H23.4-1967		ASTM B251-67
Seamless Copper Pipe, Standard Sizes	H26.1-1967		ASTM B42-66 WW-P-377d '62
<i>Miscellaneous</i>			
Air Ducts		181-69	
Flame Tests of Flame-Resistant Fabrics		214-55	
Tube Fittings for Flammable and Combustible Fluids and Refrigeration Service		109-66	
LPG Containers and Accessories			ASME, DOT
Pigtails, Expansion Coils and Flexible Hose Connectors for LP-Gas		569-59	
Roof Jacks for Mobile Homes and Travel Trailers		311-69	
Safety Devices — Appliances	Z21.22-1965* Z21.20-1968 Z21.23-1968 (R) Z21.21-1968		
Gas Vents	A131.2-1964	441-69	
Factory-Built Chimneys	A131.1-1964	103-69	
Installation of Oil Burning Equipment	Z95.1-1968		NFPA No. 31-1968
Installation of Gas Appliances and Gas Piping in Buildings	Z21.30-1964		NFPA No. 54-1969
Storage and Handling of Liquefied Petroleum Gas	Z106.1-1967		NFPA No. 58-1969

Type	ANSI (Formerly ASA, USASI)	UL	Other
Residence Type Warm Air Heating and Air Conditioning Systems			NFPA No. 90B-1968
Chimneys, Fireplaces, and Venting Systems	A52.1-1969		NFPA No. 211-1969
Standard Glossary of Terms Relating to Chimneys, Gas Vents, and Heat Producing Appliances			NFPA No. 97M-1968

*With Addenda

†Dates shown are latest editions at time of printing including the dates of any Addenda issued.

Notes to Table 9

AGA: Standards and Tentative Standards, published by the *American Gas Association, Inc. Laboratories*, 8501 East Pleasant Valley Road, Cleveland (Independence), Ohio 44131.

ANSI: *American National Standards Institute* (formerly American Standards Association and United States of America Standards Institute), 1430 Broadway, New York, N. Y. 10018.

ASME: Standards and Tentative Standards published by the *American Society of Mechanical Engineers*, 345 East 47th Street, New York, N. Y. 10017.

ASTM: Standards and Tentative Standards published by the *American Society for Testing and Materials*, 1916 Race Street, Philadelphia, Pa. 19103.

DOT: Regulations published in the Federal Code of Regulations for the *Department of Transportation*. Title 49, Parts 171-190 of the CFR are applicable. Available from the U. S. Government Printing Office, Washington, D. C. 20234.

IAPMO: Standards published by the *International Association of Plumbing and Mechanical Officials*, 5032 Alhambra Avenue, Los Angeles, California 90032. (Formerly Western Plumbing Officials Association (WPOA)).

UL: Standards and Tentative Standards published by the *Underwriters' Laboratories, Inc.*, 207 East Ohio Street, Chicago, Illinois 60611.

NFPA: National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110.

Part III — Electrical Systems

1. Introduction

1.1 Electrical engineers associated with the design, manufacturing, installation, and inspection of recreational vehicle electrical systems have been aware of the need for uniform technical standards leading to the safe use of this special type of equipment. They have also recognized that because of conditions of transport and use, existing electrical equipment standards for motor vehicles or for buildings are not completely applicable to recreational vehicles. It is with these factors in mind that Part III of this Standard has been developed.

1.2 Much of the material in Part III has been taken from, or is based on the National Electrical Code (American National Standard C1 — 1968) and standards listed in the Appendix of this Part.

2. Scope

2.1 Part III of this Standard covers the electric conductors and equipment installed within or on recreational vehicles and also the conductors that connect them to a supply of electricity.

2.2 This Standard is not intended as a design specification or an instruction manual for untrained persons.

2.3 The provisions of this Standard are not intended to prevent the use of any material, appliance, installation, device, arrangement, or method of construction not specifically prescribed herein, provided any such alternative has been approved or listed. The enforcement authority shall approve such alternate if the material, appliance, installation, device, arrangement or method of construction is at least the equivalent of that prescribed by this Part, and may require tests or proof of compliance, to substantiate any claims that may be made regarding the use of any such alternate.

3. Definitions

***Accessible (as applied to equipment):** Admitting close approach because not guarded by locked doors, elevation or other effective means. (See **Readily Accessible**.)

*Definition identical to that appearing in the National Electrical Code.

Accessible (as applied to wiring methods): Not permanently closed in by the structure or finish of the recreational vehicle; capable of being removed without disturbing the recreational vehicle structure or finish. (See **Concealed** and **Exposed**.)

Air-Conditioning or Comfort Cooling Equipment: All of that equipment intended or installed for the purpose of processing the treatment of air so as to control simultaneously its temperature, humidity, cleanliness and distribution to meet the requirements of the conditioned space.

***Ampacity:** Current-carrying capacity expressed in amperes.

***Appliance:** Utilization equipment, generally other than industrial, normally built in standardized sizes or types which is installed or connected as a unit to perform one or more functions such as clothes washing, air conditioning, food mixing, deep frying, etc.

***Appliance — Fixed:** An appliance which is fastened or otherwise secured at a specific location.

Appliance — Portable: An appliance that is actually moved or can easily be moved from one place to another in normal use.

NOTE: For the purpose of this Standard the following major appliances are considered portable if cord connected: Refrigerators, clothes washers, dishwashers without booster heaters, or other similar appliances.

***Appliance — Stationary:** An appliance which is not easily moved from one place to another in normal use.

Approved: Means acceptable to the authority having jurisdiction.

***Attachment Plug (Plug Cap) (Cap):** A device that by insertion in a receptacle establishes connection between the conductors of the attached flexible cord and the conductors connected permanently to the receptacle.

***Automatic:** Self-acting, operating by its own mechanism when actuated by some impersonal influence, as for example, a change in current strength, pressure, temperature, or mechanical configuration.

***Bonding Jumper:** A reliable conductor to assure the required electrical conductivity between metal parts required to be electrically connected.

***Bonding Jumper — Circuit:** The connections between portions of a conductor in a circuit to maintain required ampacity of the circuit.

*Definition identical to that appearing in the National Electrical Code.

***Branch Circuit:** That portion of a wiring system extending beyond the final overcurrent device protecting the circuit.

NOTE: A device not approved for branch circuit protection such as a thermal cutout or motor overload protective device is not considered as the overcurrent device protecting the circuit.

***Branch Circuit — Appliance:** A circuit supplying energy to one or more outlets to which appliances are to be connected; such circuits to have no permanently connected lighting fixtures not a part of an appliance.

***Branch Circuit — General Purpose:** A branch circuit that supplies a number of outlets for lighting and appliances.

***Branch Circuit — Individual:** A branch circuit that supplies only one utilization equipment.

***Branch Circuit — Multiwire:** A circuit consisting of two or more ungrounded conductors having a potential difference between them and an identified grounded conductor having equal potential difference between it and each ungrounded conductor of the circuit and which is connected to the neutral conductor of the system.

***Cabinet:** An enclosure designed either for surface or flush mounting, and provided with a frame, mat or trim in which swinging doors are hung.

***Circuit Breaker:** A device designed to open and close a circuit by nonautomatic means, and to open the circuit automatically on a predetermined overload of current, without injury to itself when properly applied within its rating.

Concealed: Rendered inaccessible by the structure or finish of the recreational vehicle. Wires in concealed raceways are considered concealed, even though they may become accessible by withdrawing them.

Conductor:

***Bare:** A conductor having no covering or insulation whatsoever. (See **Conductor, Covered.**)

***Covered:** A conductor having one or more layers of non-conducting materials that are not recognized as insulation under the code. (See **Conductor, Bare.**)

***Insulated:** A conductor covered with material recognized as insulation.

*Definition identical to that appearing in the National Electrical Code.

***Connector, Pressure (Solderless):** A device that establishes the connection between two or more conductors or between one or more conductors and a terminal by means of mechanical pressure and without the use of solder.

Converter: A device which changes electrical energy from one form to another, as from alternating current to direct current.

***Cooking Unit, Counter-Mounted:** An assembly of one or more domestic surface heating elements for cooking purposes designed for flush mounting in, or supported by, a counter, and which assembly is complete with inherent or separately mountable controls and internal wiring. (See **Oven, Wall-Mounted.**)

Dead Front (as applied to switches, circuit-breakers, switchboards, and distribution panelboards): So designed, constructed and installed that no current-carrying parts are normally exposed on the front.

***Demand Factor:** The demand factor of any system, or part of a system, is the ratio of the maximum demand of the system, or part of a system, to the total connected load of the system, or of the part of the system under consideration.

***Device:** A unit of an electrical system that is intended to carry but not utilize electrical energy.

Direct Current (DC): A non-alternating flow of energy within a circuit having an electromotive force or potential (not exceeding 25 volts, for the purposes of this Standard).

Disconnecting Means: The necessary equipment usually consisting of circuit breaker or switch and fuses, and their accessories, located near the point of entrance of supply conductors in a recreational vehicle and intended to constitute the means of cutoff for the supply to that recreational vehicle.

NOTE: Receptacles used as disconnecting means shall be accessible (as applied to wiring methods) and capable of interrupting their rated current without hazard to the operator.

Distribution Panelboard: A single panel or group of panel units designed for assembly in the form of a single panel; including buses, and with or without switches and/or automatic overcurrent protective devices for the control of light, heat or power circuits of small individual as well as aggregate capacity; designed to be placed in a cabinet or cutout box placed in or against a wall or partition and accessible only from the front.

*Definition identical to that appearing in the National Electrical Code.

***Enclosed:** Surrounded by a case that will prevent a person from accidentally contacting live parts.

***Equipment:** A general term, including material, fittings, devices, appliances, fixtures, apparatus, and the like, used as a part of, or in connection with, an electrical installation.

***Exposed (as applied to live parts):** A live part that can be inadvertently touched or approached nearer than a safe distance by a person. It is applied to parts not suitably guarded, isolated, or insulated. (See Accessible and Concealed.)

***Exposed (as applied to wiring method):** Not concealed.

***Externally Operable (as applied to equipment that is enclosed in a case or cabinet):** Capable of being operated without exposing the operator to contact with live parts.

***Feeder:** A feeder is the circuit conductors between the service equipment, or the generator switchboard of an isolated plant, and the branch circuit overcurrent device.

***Fitting:** An accessory, such as a locknut, bushing, or other part of a wiring system, that is intended primarily to perform a mechanical rather than an electrical function.

***Ground:** A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and earth, or to some conducting body that serves in place of the earth.

***Grounded:** Connected to earth or to some conducting body that serves in place of the earth.

***Grounded Conductor:** A system or circuit conductor which is intentionally grounded.

***Grounding Conductor:** A conductor used to connect equipment or the grounded circuit of a wiring system to a grounding electrode or electrodes.

***Grounding Conductor, Equipment:** A conductor used to connect the equipment being grounded to the service equipment enclosure.

***Isolated:** Not readily accessible to persons unless special means for access are used.

Labeled: Equipment or materials to which has been attached a label, symbol, or other identifying mark of a nationally recognized

*Definition identical to that appearing in the National Electrical Code.

testing laboratory that maintains periodic inspection of production of labeled equipment or materials and by whose labeling is indicated compliance with nationally recognized standards or tests to determine suitable usage in a specified manner.

***Lighting Outlet:** An outlet intended for the direct connection of a lampholder, a lighting fixture or a pendant cord terminating in a lampholder.

Listed: Equipment or materials included in a list published by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

***Nonautomatic:** The implied action requires personal intervention for its control.

***Outlet:** A point on the wiring system at which current is taken to supply utilization equipment.

***Oven, Wall Mounted:** A domestic oven for cooking purposes designed for mounting in or on a wall or other surface.

Power Supply Assembly: The conductors, including the grounding conductors, insulated from one another, the connectors, attachment plug caps, and all other fittings, grommets, or devices installed for the purpose of delivering energy from the source of electrical supply to the distribution panel within the recreational vehicle.

Raceway: Any channel for holding wires, cables, or bus bars that is designed expressly for, and used solely for, this purpose. Raceways may be of metal or insulating material and the term includes rigid metal conduit, flexible metal conduit, electrical metallic tubing, underfloor raceways, cellular metal floor raceways, surface metal raceways, wireways, and busways and rigid nonmetallic conduit.

***Raintight:** So constructed or protected that exposure to a beating rain will not result in the entrance of water.

***Readily Accessible:** Capable of being reached quickly for operation, renewal, or inspection, without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, etc. (See **Accessible**.)

***Receptacle Outlet:** An outlet where one or more receptacles are installed.

*Definition identical to that appearing in the National Electrical Code.

***Receptacle (Convenience) Outlet:** A receptacle is a contact device installed at an outlet for the connection of an attachment plug and flexible cord.

Transformer: A device, which when used, will raise or lower the voltage of alternating current of the original source.

***Utilization Equipment:** Equipment that utilizes electric energy for mechanical, chemical, heating, lighting, or similar useful purposes.

***Ventilated:** Provided with a means to permit circulation of air sufficient to remove an excess of heat, fumes or vapors.

Voltage (of a Circuit): The greatest effective difference of potential between any two conductors of the circuit concerned.

***Watertight:** So constructed that moisture will not enter the enclosing case.

***Weatherproof:** So constructed or protected that exposure to the weather will not interfere with successful operation.

Raintight or watertight equipment may fulfill the requirements for "weatherproof". However, weather conditions vary and consideration should be given to conditions resulting from snow, ice, dust, or temperature extremes.

4. Batteries and Direct-Current Power (Twelve Volts Nominal)

4.1 Battery Circuits. Battery circuits furnished and installed by the recreational vehicle manufacturer, other than those related to braking, are subject to this Standard. Circuits supplying lights subject to Federal or State regulations shall be in accordance with applicable government regulations but shall not be lower than provided by this Standard.

4.2 Low-Voltage Wiring Materials.

4.2.1 Copper conductors shall be used for low-voltage circuits.

4.2.2 The insulation of low-voltage conductors used in battery and direct current circuits shall be rated at least 60°C.

4.2.3 Conductors furnished and installed by the recreational vehicle manufacturer shall have a minimum of one thirty-second inch ($\frac{1}{32}$ ") of thermoplastic insulation or equal.

*Definition identical to that appearing in the National Electrical Code.

4.2.4 The insulation of outdoor or under-chassis wire shall be moisture and heat resistant, Type THW or equivalent.

4.2.5 Single-wire, low-voltage conductors shall be of the stranded type.

4.3 Low-Voltage Wiring Methods.

4.3.1 Conductors shall be protected against physical damage and shall be adequately supported. Where insulated conductors are clamped to the structure, the conductor insulation shall be supplemented by an additional wrap or layer of equivalent material, except that jacketed cables need not be so protected. Wiring shall be routed away from sharp edges, moving parts or heat sources.

4.3.2 Splices and connections shall be made in accordance with Society of Automotive Engineers (SAE) standards and recommended practices or equivalent.

4.3.3 Battery and direct-current circuits shall be physically separated by at least a one-half inch ($\frac{1}{2}$ ") gap, or other approved means, from circuits of a different power source. This may be accomplished by clamping, routing, or equivalent means which ensure permanent total separation.

4.4 **Battery Installations.** Storage batteries subject to the provisions of this Standard shall be securely attached to the vehicle and installed in an area which is ventilated directly to the exterior of the vehicle.

4.5 Overcurrent Protection.

4.5.1 Battery and direct-current circuit wiring shall be protected by overcurrent protective devices rated not in excess of the ampacity of copper conductors, as follows:

<u>Wire Size</u>	<u>Ampacity</u>	<u>Wire Type</u>
18	3	Stranded only
16	9	Stranded only
14	15	Stranded or solid
12	20	Stranded or solid
10	30	Stranded or solid

NOTE: For other allowable conductor ampacities, refer to the National Electrical Code (ANSI C1-1968), Table 310-12.

4.5.2 Circuit breakers or fuses shall be of the listed or approved type, including automotive types conforming to the requirements of Society of Automotive Engineers (SAE) J554 — 1968 or Underwriters' Laboratories, Inc. Standard 275b. Fuseholders shall be clearly marked with maximum fuse size.

4.5.3 Higher current-consuming direct-current appliances such as pumps, compressors, heater blowers and similar motor-driven appliances shall be installed in accordance with the manufacturer's instructions.

4.5.4 The overcurrent protective device shall be installed in an accessible location on the vehicle as close as practical to the point where the power supply connects to the vehicle circuits. If located outside the recreational vehicle, the device shall be protected against weather and physical damage.

5. Combination Electrical Systems

5.1 General. Vehicle wiring suitable for connection to a battery or direct-current supply source may be connected to a 120-volt source provided that the entire wiring system and equipment are rated and installed in full conformity to Section 7 of this Standard covering 120-volt electrical systems. Circuits fed from alternating-current transformers shall not supply direct-current appliances.

5.2 Voltage Converters (120-volt Alternating Current to Low Voltage Direct Current). The 120-volt alternating current side of voltage converters shall be wired in full conformity with the provisions of Section 7 of this Standard for 120-volt electrical systems. Converters supplied as an integral part of a listed appliance are not subject to the above. All converters and transformers shall be listed or approved by a nationally recognized testing laboratory.

5.3 Dual-Voltage Fixtures or Appliances. Fixtures or appliances having both 120-volt and low-voltage connections shall be listed or approved as dual voltage by a nationally recognized testing laboratory.

5.4 Autotransformers. Autotransformers are prohibited.

5.5 Receptacles and Plug Caps. When a recreational vehicle is equipped with separate external connections for a 120-volt alternating-current system and a battery or direct-current system, receptacles and plug caps shall be of different configurations.

5.6 Identification.

5.6.1 When a vehicle equipped with a battery or direct-current system has an external connection for low-voltage power, the receptacle shall have a configuration that will not accept 120-volt power. The vehicle shall have permanently affixed on the outside wall adjacent to the point of entrance of the power supply conductors a tag which reads:

THIS CONNECTION IS FOR LOW-VOLTAGE BATTERY OR DIRECT CURRENT ONLY. DO NOT CONNECT TO 120 OR 240 VOLTS AC.

5.6.2 The tag shall be 3 inches by 1¾ inches minimum size, made of etched, metal-stamped or embossed brass, stainless steel, anodized or alclad aluminum not less than 0.020 inch thick, or other approved material (e.g., 0.005 inch plastic laminates).

6. Generator Installations

6.1 Mounting. Generators shall be mounted in such a manner as to be effectively electrically bonded to the recreational vehicle chassis.

6.2 Generator Protection. Equipment shall be installed to ensure that the generator is disconnected when the vehicle is energized from an outside source and to ensure that the outside source is disconnected when the vehicle is energized by the generator. The generator field shall be protected by appropriately rated equipment which has been listed.

6.3 Installation of Storage Batteries and Generators. Storage batteries and internal-combustion-driven generator units (subject to the provisions of this Standard) shall be secured in place to avoid displacement from vibration and road shock and shall be installed in a compartment which is vapor-tight to the interior of the vehicle.

6.4 Ventilation of Generator Compartments. Compartments accommodating internal-combustion-driven generator units shall be provided with approved ventilation in accordance with instructions provided by the manufacturer of the generator unit.

6.5 Location of Internal-Combustion-Engine Generator Exhaust. Exhaust from generator internal-combustion engines shall not terminate adjacent to the vehicle gasoline tank filler spout inlet.

7. Nominal 120 or 120/240 Volt Systems

7.1 General Requirements. The electrical equipment and material of recreational vehicles indicated for connection to a wiring system nominally rated 120 volts, 2 wire with ground, or a wiring system nominally rated 120/240 volts, 3 wire with ground, shall be approved and installed in accordance with the requirements of the National Electrical Code (ANSI C1 — 1968).

7.2 Materials and Equipment. Electrical materials, devices, appliances, fittings and other equipment installed, intended for use in, or attached to the recreational vehicle shall be listed by a nationally recognized testing laboratory.

7.3 Circuit or Branch Circuits Required.

7.3.1 The circuit or branch circuits required in a recreational vehicle shall conform to 7.14.1 and be determined in accordance with 7.3.1.1, 7.3.1.2 or 7.3.1.3.

7.3.1.1 Recreational vehicles with not more than eight (8) lighting and receptacle outlets combined shall have either:

a. One general purpose circuit, 15 amperes, No. 14 AWG minimum, copper or listed equal, to supply these outlets, provided the total rating of fixed appliances connected to this circuit does not exceed five amperes or 600 watts, *or*

b. One general purpose circuit, 20 amperes, No. 12 AWG minimum, copper or listed equal, to supply these outlets, provided the total rating of fixed appliances connected to this circuit does not exceed nine amperes or 1,000 watts.

Vehicles wired in accordance with a. or b. shall not be equipped with electrical heating or cooking appliances.

7.3.1.2 Recreational vehicles with more than eight (8) lighting and receptacle outlets combined shall have one appliance branch

circuit, 20 amperes, No. 12 AWG minimum, copper or listed equal, and either:

a. One branch circuit, 15 amperes, No. 14 AWG minimum, copper or listed equal, to supply these outlets, provided this circuit does not supply receptacles in the cooking and dining area(s) or electrical heating or cooking appliances, and provided the total rating of fixed appliances connected to this circuit does not exceed five amperes or 600 watts, or

b. One branch circuit, 20 amperes, No. 12 AWG minimum, copper or listed equal, to supply these outlets, provided this circuit does not supply receptacles in the cooking and dining area(s) or electrical heating or cooking appliances and provided the total rating of fixed appliances connected to this circuit does not exceed nine amperes or 1,000 watts.

7.3.1.3 Calculations for Lighting and Appliance Load. When 7.3.1.2 (relative to recreational vehicles with more than eight (8) lighting and receptacle outlets combined) is not applied, the following method shall be employed in computing the power supply or feeder assembly and distribution panelboard load for the recreational vehicle:

A. *Lighting:* Length times width of vehicle (outside dimensions, exclusive of hitch and cab) times three watts per square foot, e.g.,

Length \times width \times 3 = _____ lighting watts.

B. *Small Appliance:* Number of circuits times 1,500 watts for each 20 ampere appliance receptacle circuit, e.g.,

Number of Circuits \times 1,500 = _____ small appliance watts.

C. *Total:* Lighting watts plus small appliance watts = _____ total watts.

D. First 3,000 total watts at 100 per cent plus remainder at 35 per cent = _____ watts to be divided by voltage to obtain current (amperes) per leg.

Amperes per Leg	
A	B
Lighting and small appliance current (amperes) per leg (from D above) = _____	
E. Add name plate amperes for motors and heater loads (exhaust fans, air conditioners,* electric, gas, or oil heating*) = _____	
F. Add 25 per cent of amperes of largest motor in (E) = _____	

*Omit smaller of these two except include blower motor if used as air conditioner evaporator motor.

G. Add name plate amperes for:**

Disposal _____

Water Heater _____

Wall-Mounted Ovens _____

Cooking Units _____

TOTAL _____ = _____

H. Add amperes for free-standing range as distinguished from separate ovens and cooking units. Derive from following table by dividing watts by 230 volts.

Range	Name Plate Rating	Use
(Free standing range as distinguished from separate oven and cooking units)	10,000 w or less	80 per cent of rating
	10,001-12,500 w	8,000 w
	12,501-13,500 w	8,400 w
	13,501-14,500 w	8,800 w
	14,501-15,500 w	9,200 w
	15,501-16,500 w	9,600 w
	16,501-17,500 w	10,000 w

Amperes per Leg

A B

I. If outlets or circuits are provided for other than factory-installed major appliances, the anticipated load shall be added for each.

TOTAL = _____

When the total for Legs A and B are unequal, use the larger to determine the distribution panel and supply cord rating.

(Service amperes shall not exceed supply cord rating. See 7.7.1.5.)

**When number of appliances is four or more use 75 per cent of total.

7.4 Receptacle Outlets Required.

7.4.1 Except in the bath and hall areas, receptacle outlets shall be installed at wall spaces two feet (2') wide or more, so that no point along the floor line is more than six feet (6'), measured horizontally, from an outlet in that space. Except as explained in the following, receptacle outlets are not required for wall spaces occupied by kitchen cabinets, wardrobe cabinets, built-in furniture, behind

doors which may open fully against a wall surface, or similar facilities. A receptacle outlet shall be installed:

a. Adjacent to counter tops in the kitchen (at least one on each side of the sink if counter tops are on each side and are twelve inches (12") or over in width).

b. Adjacent to the refrigerator and gas-range space, except when a gas-fired refrigerator or cooking appliance, requiring no external electrical connection, is factory installed.

c. Adjacent to counter top spaces (and built-in vanities) which cannot be reached from a receptacle required in 7.4.1. a by a cord of six feet (6') without crossing a traffic area, cooking appliance or sink.

7.4.2 When installed adjacent to a bathroom lavatory, the receptacle outlet shall be a minimum of thirty inches (30") from the floor. The receptacle outlet may be contained in a listed lighting fixture. A receptacle outlet shall not be installed in a tub, shower enclosure, or combination shower compartment.

7.5 Distribution Panelboard.

7.5.1 A listed and appropriately rated distribution panelboard shall be used. The distribution panelboard shall be of the insulated neutral type, with the grounding bar attached to the metal frame of the panelboard or other approved grounding means.

7.5.2 The distribution panelboard shall be installed in a readily accessible location and may be located in a closet.

7.5.3 The distribution panelboard shall be of the dead-front type and shall consist of one or more circuit breakers or shall be Type S plug fuses. A main disconnecting means shall be provided where fuses are used or where more than two circuit breakers are employed.

7.6 Branch Circuit Protection.

7.6.1 The branch-circuit overcurrent devices shall be rated:

- a. Not more than the circuit conductors; and
- b. Not more than 150 per cent of the rating of a single appliance rated 10-amperes or more; but
- c. Not more than the fuse size marked on the air conditioner or other motor-operated appliance.

7.6.2 A 20-ampere fuse or circuit breaker shall be considered adequate protection for fixture leads, cords, or portable appliances,

and No. 14 AWG (American Wire Gage) tap conductors, not over 6 feet long for recessed lighting fixtures.

7.6.3 If more than one outlet or load is on a branch-circuit, a 15-ampere receptacle shall be considered protected by a 20-ampere fuse or circuit breaker.

7.7 Power Supply Assembly.

7.7.1 General.

7.7.1.1 Recreational vehicles wired in accordance with 7.3.1.1.a. shall use a listed 15-ampere, or higher, main power supply assembly. (See 7.8.1, 7.8.1.2.a, and 7.8.2.)

7.7.1.2 Recreational vehicles wired in accordance with 7.3.1.1.b. shall use a listed 20-ampere, or higher, main power supply assembly. (See 7.8.1, 7.8.1.2.b, and 7.8.2.)

7.7.1.3 Recreational vehicles wired in accordance with 7.3.1.2 or 7.3.1.3 shall use a listed 30-ampere, or higher, main power supply assembly. (See 7.8.1, 7.8.1.2.c, and 7.8.2.)

7.7.1.4 In accordance with 7.3.1.3, any recreational vehicle with a rating in excess of 30-amperes, 115 volts, shall use a listed 40-ampere or 50-ampere 120/240 volt power supply assembly (C 73.17 — 1966 configuration). (See 7.8.1, 7.8.1.2.d, and 7.8.2.)

Exception: When the calculated load of the recreational vehicle exceeds 30 amperes, 120 volts, a second power supply cord may be installed when permitted by the authority having jurisdiction. Where a two cord supply system is installed, they shall not be interconnected on either the line side or the load side. The grounding circuits and grounding means shall be electrically interconnected.

7.7.1.5 Dual Supply Source.

a. Where a dual supply system, consisting of a generator and a power supply cord is installed, the feeder from the generator shall be protected by an overcurrent-protective device. Installation shall be in accordance with Sections 6.1 and 6.2.

b. Calculation of loads shall be in accordance with 7.3.1.3

c. The two supply sources need not be of the same capacity.

d. If the generator source exceeds 30-amperes, 115 volts, it may be wired either as a 120 volt system or a 120/240 volt system, providing an overcurrent-protective device of the proper rating is installed in the feeder.

e. The external-power-supply assembly may be less than the calculated load but not less than 30 amperes and shall have overcurrent protection not greater than the capacity of the external power supply assembly.

7.8 Means for Connecting to Power Supply.

7.8.1 Assembly. The power supply assembly or assemblies shall be factory supplied (see 7.8.1.a.) or factory installed when of the permanently connected type as specified in 7.8.1.b.

a. **Separable.** When a separable power supply assembly consisting of a cord with a female connector and molded attachment plug cap is provided, the vehicle shall be equipped with a permanently mounted, listed or approved, male-recessed-type motor base receptacle wired directly to the distribution panel by an approved wiring method. The attachment plug cap shall be of an approved or listed type. (See 7.7.1.1, 7.7.1.2, 7.7.1.3, 7.7.1.4.)

b. **Permanently Connected.** Each power supply assembly shall be connected directly to the terminals of the distribution panel or conductors within an approved junction box and provided with means to prevent strain from being transmitted to the terminals. The conductors between each junction box and the terminals of each distribution panel shall be equal to the ampacity of the power supply cord. The supply end of the assembly shall be equipped with an attachment plug of the type described in 7.8.1.2. Where the cord passes through the walls or floors, it shall be protected by means of conduit and bushings or equivalent.

7.8.1.1 Cord. The cord set shall be listed as suitable for use with recreational vehicles.* The cord shall be not less than 20 feet as measured from the point of entrance to the recreational vehicle or the face of the motor base attachment plug nor more than 26½ feet in length overall to the face of the attachment plug at the supply end.

7.8.1.2 Plug Caps.

a. Recreational vehicles having only one 15-ampere branch circuit as permitted by 7.3.1.1.a. shall have an attachment-plug cap which shall be two-pole, three-wire, grounding type, rated 15-amperes, 125 volts, conforming to American National Standard C73.11 — 1966.

b. Recreational vehicles having only one 20-ampere branch circuit as permitted in 7.3.1.1.b. shall have an attachment-plug cap which shall be two-pole, three-wire, grounding type, rated 20-amperes, 125 volts, conforming to American National Standard C73.12 — 1966.

c. Recreational vehicles wired in accordance with 7.3.1.2 or 7.3.1.3 shall have an attachment-plug cap which shall be two-

*Until such time as cord sets so listed become available, this requirement may be met by cord sets listed as suitable for use with travel trailers.

pole, three-wire, grounding type, rated 30-amperes, 125 volts, conforming to American National Standard C73.13 — 1966, intended for use with units rated at 30-amperes, 125 volts, for 120 volt systems.

d. Recreational vehicles having a power supply assembly rated 40-amperes or 50-amperes as permitted by 7.3.1.3 shall have a 3-pole, 4-wire grounding type attachment-plug cap rated 50-amperes, 125/250 volts, conforming to American National Standard C73.17 — 1966.

7.8.2 Labeling at Electrical Entrance. Each recreational vehicle shall have permanently affixed to the exterior skin at or near the point of entrance of the power supply cord(s) a tag 3 inches by 1¾ inches minimum size, made of etched, metal-stamped or embossed brass, stainless steel, anodized or alclad aluminum not less than .020 inch thick, or other approved material (e.g., 0.005 inch plastic laminates), which reads, as appropriate, either:

a. "This connection is for 110-125 volt AC, 60 Hz (Cycles) service. Do not connect to higher voltage" or

b. "This connection is for 3-wire 120/240 volt AC, 60 Hz (Cycles), _____ ampere service."

7.8.3 Location. The point of entrance of a power supply assembly shall be located within twenty-five feet (25') of the rear, on the left (road) side or at the rear, left of the longitudinal center of the vehicle, within eighteen inches (18") of the outside wall.

Exception. A camping trailer not more than seventeen feet (17') in length, a motor home or a truck camper may have the electrical point of entrance located on either side, provided the drain outlet and gas connections are located on the same side.

7.9 Wiring Methods.

7.9.1. Electrical metallic tubing, flexible metallic conduit, metal-clad cable, and nonmetallic sheathed cable with a grounding conductor, shall terminate by means of fittings, clamps or connectors approved for the purpose. Flexible metal conduit may be used as a grounding means where both the conduit and the fittings are approved for the purpose.

7.9.2 Rigid metal conduit shall be provided with a locknut inside and outside the box, and a conduit bushing shall be used on the inside. Inside ends of the conduit shall be reamed.

7.9.3 Nonmetallic outlet boxes are acceptable only with non-metallic sheathed cable.

7.9.4 In walls and ceilings constructed of wood or other combustible material, outlet boxes and fittings shall be flush with the finished surface or project therefrom.

7.9.5 Wall and ceiling outlets shall be mounted in accordance with Article 370 of the National Electrical Code (ANSI C1 — 1968).

Exception: Snap-in type boxes or boxes provided with special wall or ceiling brackets that securely fasten boxes in walls or ceilings may be used.

7.9.6 The sheath of nonmetallic cable or the armor of metal-enclosed cable shall be continuous between outlet boxes and other enclosures.

7.9.7 Metal-clad and nonmetallic cables may be passed through the centers of the wide side of 2 inch by 4 inch studs. However, they shall be protected where they pass through 2 inch by 2 inch studs or at other studs or frames where the cable would be less than one and one-half inches ($1\frac{1}{2}$ ") from the inside or outside surface. Steel plates on each side of the cable, or a steel tube, with not less than No. 16 Manufacturers' Standard Gage wall thickness, are required to protect the cable. These plates or tubes shall be securely held in place. When the thickness of studs or frames make it impractical or impossible to use metal plates or tubes, particular care shall be exercised in the design and production of the recreational vehicles so as to avoid contacting the cables with nails, screws, or other fasteners. Such care in design shall include appropriate routing of the cables through studs or frames at locations where the likelihood of their being contacted by nails, screws, or other fasteners subsequent to production is remote.

7.9.8 No bend shall have a radius of less than five times the cable diameter.

7.9.9 When connected with cable connectors or clamps, cables shall be supported within twelve inches (12 ") of outlet boxes, distribution panelboards, and splice boxes on appliances. Supports shall be provided every four and one-half feet ($4\frac{1}{2}$ ') at other places.

7.9.10 Nonmetallic sheathed cables are to be supported within eight inches (8 ") of a nonmetallic outlet box without cable clamps.

7.9.11 Nonmetallic cable, if exposed, shall be protected from physical damage, by covering boards, guard strips or conduit. Cable likely to be damaged by stowage shall be so protected in all cases.

7.9.12 Metallic face plates shall be of ferrous metal not less than 0.030 inch in thickness or of nonferrous metal not less than 0.040 inch in thickness. Nonmetallic face plates shall be of the listed or approved type.

7.9.13 Where metallic face plates are used they shall be effectively grounded.

7.9.14 Outdoor or under-chassis wiring (120 volt) exposed to moisture and physical damage shall be protected by rigid metal conduit, or electrical metallic tubing which may be used when closely routed against frames and equipment enclosures. The conductors shall be suitable for wet location.

7.10 Conductors and Outlet Boxes.

7.10.1 Each wire in an outlet box, including grounding conductors, shall be counted as indicated below. Fixture wires, splicing wires, and conductors that do not leave the box are not counted.

No. 14 AWG — 2 cu. in. per wire

No. 12 AWG — 2.25 cu. in. per wire

No. 10 AWG — 2.50 cu. in. per wire

No. 8 AWG — 3.0 cu. in. per wire

NOTE: Where there is not sufficient space for a deeper box, see the National Electrical Code (ANSI C.1-1968), Table 370-6 (a-2).

7.10.2 Outlet boxes of dimensions less than those required in Table 370-6 (a) (1) and Table 370-6 (a)(2) of the National Electrical Code may be used provided the box has been tested and approved for the purpose.

7.10.3 At least four inches (4") of free conductor shall be left at each outlet box except where conductors are intended to loop without joints.

7.11 Painting of Wiring. During painting or staining of the recreational vehicle, it is acceptable to paint metal raceways (except where grounding continuity would be reduced) or the sheath of the nonmetallic cable. Some arrangement, however, must be made so that no paint is applied to the individual wires, as color coding may be obliterated by the paint.

7.11.1 Polarization.

7.11.1.1 The white conductors shall be employed for grounded circuit conductors only and shall be connected to the white terminal

or lead on receptacle outlets and fixtures. It shall be the unswitched wire in switched circuits.

Exception: A cable containing a white conductor may be used for single-pole, three-way or four-way switch loops where the connections are made so that other than the white conductor is the return conductor from the switch to the outlet. Painting of the terminal end of the wire is not required in such cases.

7.11.1.2 If the white conductor of a cable is used for other than grounded conductors or for other than switch loops, as explained in 7.11.1.1 (for a 230-volt circuit for example), the conductor shall be finished in a color other than white at each outlet where the conductors are visible and accessible.

7.12 Connection of Terminals and Splices.

7.12.1 Connection of conductors to terminal parts shall ensure a thoroughly good connection without damaging the conductors and shall be made by means of pressure connectors (including set screw type), solder lugs, or splices to flexible leads. No. 8 or smaller solid conductors and No. 10 or smaller stranded conductors may be connected by means of clamps or screws with terminal plates having upturned lugs, or by means of approved screwless terminals. Terminals for more than one conductor shall be of a type approved for the purpose.

7.12.2 Conductors shall be spliced or joined with approved splicing devices or by brazing, welding, or soldering with a fusible metal or alloy. Soldered splices shall first be so spliced or joined as to be mechanically and electrically secure without solder and then soldered. All splices, joints and free ends of conductors shall be covered with an insulation equivalent to that on the conductors.

7.12.3 If splices of the grounding wire in nonmetallic sheathed cable are made in outlet boxes, the splices shall be insulated.

7.13 Wall Switches.

7.13.1 Switches shall be rated as follows:

- a. For lighting circuits, switches shall be rated not less than 10 amperes, 125 volts and in no case less than the connected load.
- b. For motors or other loads, switches shall have ampere or horsepower ratings, or both, adequate for loads controlled. (An "AC general use" snap switch may control a motor 2 horsepower or less with full-load current not over 80 per cent of the switch ampere rating.)

7.14 Receptacles.

7.14.1 All receptacle outlets:

- a. Shall be of the grounding type; and
- b. Shall be installed in accordance with Sections 210-21 and 210-22 of the National Electrical Code (ANSI C1 -- 1968).

7.15 Lighting Fixtures.

7.15.1 General.

7.15.1.1 Any combustible wall or ceiling finish exposed between the edge of a fixture canopy, or pan and the outlet box, shall be covered with noncombustible material of either metal equal to the thickness of the fixture or asbestos of one-sixteenth inch ($\frac{1}{16}$ ").

7.15.2 Shower Fixtures.

7.15.2.1 If a lighting fixture is provided over a bathtub or in a shower stall, it shall be of the enclosed and gasketed type and listed or approved for the type of installation.

7.15.2.2 The switch for shower lighting fixtures and exhaust fans, located over a tub or in a shower stall, shall be located outside the tub or shower space.

7.15.3 Outdoor Outlets, Fixtures, Air-Cooling Equipment, etc.

7.15.3.1 Outdoor fixtures and other equipment shall be listed or approved for outdoor use.

7.16 Grounding. (See also Section 7.18 on Bonding of Non-current-Carrying Metal Parts)

7.16.1 **Service Grounding.** The grounding conductor in the supply cord or feeder shall be connected to the grounding bus or other approved grounding means in the distribution panelboard.

7.16.2 **Distribution Panelboard.** The distribution panelboard shall have a grounding bus with sufficient terminals for all grounding conductors or other approved grounding means.

7.16.3 Insulated Neutral.

7.16.3.1 The grounded circuit conductor (neutral) shall be insulated from the equipment grounding conductors and from equipment enclosures and other grounded parts. The grounded (neutral) circuit terminals in the distribution panelboard and in ranges, clothes dryers, counter-mounted cooking units, and wall-mounted ovens shall be insulated from the equipment enclosure.

Bonding screws, straps or buses in the distribution panelboard or in appliances shall be removed and discarded.

7.16.3.2 Connection of electrical ranges and electrical clothes dryers utilizing a grounded (neutral) conductor, if cord connected, shall be made with 4 conductor cord and 3-pole, 4-wire grounding type plugs and receptacles.

7.17 Interior Equipment Grounding.

7.17.1 In the electrical system, all exposed metal parts, enclosures, frames, lighting fixture canopies, etc., shall be effectively bonded to the grounding terminal or enclosure of the distribution panelboard.

7.17.2 Bare wires, green-colored wires, or green wires with yellow stripe(s) shall be used for equipment grounding conductors only.

7.17.3 Where grounding of electrical equipment is specified, it may be accomplished as follows:

a. Connection by metallic raceway (conduit or electrical metallic tubing) or the sheath of metal-clad cable to metallic outlet boxes.

b. A connection between the one or more grounding conductors and a metallic box by means of a grounding screw, which shall be used for no other purpose, or an approved grounding device.

c. The grounding wire in nonmetallic sheathed cable may be secured under a screw threaded into the fixture canopy other than a mounting screw, cover screw, or to a listed grounding means (plate) in a nonmetallic outlet box for fixture mounting (grounding means may also be used for fixture attachment screws).

7.17.4 A connection between the one or more grounding conductors brought into a nonmetallic outlet box shall be so arranged that a connection can be made to any fitting or device in that box that requires grounding.

7.17.5 Where more than one equipment grounding conductor of a branch circuit enters a box, all such conductors shall be in good electrical contact with each other, and the arrangement shall be such that the disconnection or removal of a receptacle, fixture, or other device fed from the box will not interfere with or interrupt the grounding continuity.

7.17.6 Cord-connected appliances, such as washing machines, clothes dryers, refrigerators, and the electrical system of gas ranges, etc., shall be grounded by means of an approved cord with grounding conductor and grounding type plug.

7.18 Bonding of Noncurrent-Carrying Metal Parts.

7.18.1 All exposed noncurrent-carrying metal parts that may become energized shall be effectively bonded to the grounding terminal or enclosure of the distribution panelboard.

7.18.2 A bonding conductor shall be connected between any distribution panelboard and an accessible terminal on the chassis.

Exception: Any recreational vehicle which employs a unitized metal chassis-frame construction to which the distribution panelboard is securely fastened with a bolt(s) and nut(s) or by welding or riveting is considered to be bonded.

7.18.3 Grounding terminals shall be of the solderless type and listed as pressure terminal connectors recognized for the wire size used. The bonding conductor may be solid or stranded, insulated or bare, and shall be No. 8 AWG copper minimum, or equal.

7.18.4 The metallic roof and exterior covering are considered bonded if:

a. The metal panels overlap one another and are securely attached to the wood or metal frame parts by metallic fasteners, and

b. The lower panel of the metallic exterior covering is secured by metallic fasteners at each cross member of the chassis, or the lower panel is bonded to the chassis by a metal strap.

7.18.5 The gas, water and waste pipes are considered grounded if they are bonded to the chassis. (See Paragraph 7.18.2 for chassis bonding.)

7.18.6 Furnace and metallic circulating air ducts shall be bonded.

7.19 Appliance Accessibility. Every appliance shall be accessible for inspection, service, repair, and replacement without removal of permanent construction.

8. Factory Tests (Electrical)

8.1 Electrical Factory Tests. Each recreational vehicle shall be subjected to the following tests:

8.1.1 Circuits of 120 volts or 120/240 Volts. Each recreational vehicle designed with a 120 volt or 120/240 volt electrical system shall withstand the applied potential without electrical breakdown of a one-minute 900-volt dielectric strength test, or a one-second 1,080-volt dielectric strength test, with all switches closed between current carrying conductors, including neutral, and the recreational vehicle ground. The test transformer shall be adjustable. Starting at zero the applied potential shall be increased gradually in at least four steps until either the test value is reached or breakdown occurs. During the test, all switches and other controls shall be in the "on" position. Listed fixtures and permanently installed appliances shall not be required to withstand this test.

8.1.2. Battery and Low Voltage Circuits. The battery or low-voltage circuit conductors in each recreational vehicle shall withstand the applied potential without electrical breakdown of a one-minute 500-volt or a one-second 600-volt dielectric strength test. The test transformer shall be adjustable. The potential shall be applied between live and grounded conductors.

9. Examination of Equipment for Safety

9.1 The examination or inspection of equipment for safety, according to the recommendations contained in this Standard, should be conducted under uniform conditions and by organizations properly equipped and qualified for experimental testing, inspections of the run of goods at factories, and service-value determinations through field examinations.

NFPA No.
501B

1968

USAS
A119.1

1969

UNITED STATES OF AMERICA
STANDARDS INSTITUTE

STANDARD FOR
MOBILE HOMES

Body and Frame Design and Construction
Installation of Plumbing, Heating, and
Electrical Systems

American National Standard

This standard is one of more than 4000 approved as either a USA Standard or as an American Standard. It became an American National Standard in October 1969 when the Institute changed its name to American National Standards Institute, Inc.

ANSI, 1430 Broadway, New York, N. Y. 10018

Copyright © 1969 and sponsored by

Mobile Homes Manufacturers Association

20 North Wacker Drive, Chicago, Ill. 60606

National Fire Protection Association

60 Batterymarch Street, Boston, Mass. 02110

Trailer Coach Association

1340 West 3rd St., Los Angeles, Calif. 90017

Mobile Homes Manufacturers Association

The Mobile Homes Manufacturers Association (MHMA) is a non-profit, trade organization to serve the mobile home industry and promote industry growth by providing better tools for successful operation. It is voluntarily supported by manufacturers, suppliers, and related service organizations. It has a Standards Division with field engineering personnel to visit member plants regularly, inspecting units and assisting when necessary in the correction of any deviations from the standards applicable to mobile homes. MHMA Manufacturers must comply with the provisions of this Standard as a condition of membership.

National Fire Protection Association

The National Fire Protection Association (NFPA) is a non-profit technical and educational organization to promote the science and improve the methods of fire protection. Organized in 1896, the Association has a broad-scale standards-making program to aid in its objective to reduce loss of life and destruction of property by fire. The Association publishes the standards developed under its aegis in pamphlet editions (such as this) and in what is known as the National Fire Codes (a ten-volume compilation annually updated, totaling approximately 7,000 pages). For full information about the Association and for a list of its publications, write to the Association's Headquarters.

Trailer Coach Association

The Trailer Coach Association represents the manufacturers of mobile homes and recreational vehicles, dealers and suppliers in the Western States while drawing its members from all sections of the country. Founded in 1936, the Association sponsors mobile home and recreational vehicle shows in the major western cities and has research programs dedicated to advance the proper use of mobile homes and recreational vehicles. It has a Standards Department which works with the enforcing officials in the various Western States to encourage compliance with the recommendations contained in this standard. The Trailer Coach Association currently has a staff of 18 and a membership of 742.

United States of America Standards Institute

The United States of America Standards Institute (USASI) is the national coordinating institution for voluntary standardization in the U.S.A. through which organizations concerned with standardization may cooperate in recognizing, establishing and improving standards in this country. Approval of a standard by the Institute is based on a consensus of those essentially concerned with its scope and provisions. The Institute has a Member Body Council, a Consumer Council, and a Company Member Council. The Member Body Council is composed of non-profit technical, professional, scientific, trade, or other membership associates, societies, or organizations which are of national scope and recognition. The Mobile Homes Manufacturers Association, the National Fire Protection Association, and the Trailer Coach Association are Member Bodies of the USASI.

Copyright and Republishing Rights

This publication is copyrighted © by the Mobile Homes Manufacturers Association, the National Fire Protection Association, and the Trailer Coach Association. Permission is granted to republish in full the material herein in laws, ordinances, regulations, administrative orders or similar documents issued by public authorities. All others desiring permission to reproduce this material in whole or in part shall consult the Mobile Homes Manufacturers Association, 20 North Wacker Drive, Chicago, Illinois, 60606, the National Fire Protection Association, 60 Battery March Street, Boston, Massachusetts, 02110, and the Trailer Coach Association, 1340 West 3rd Street, Los Angeles, California, 90017.

United States of America
Standard for Mobile Homes
Body and Frame Design and Construction Requirements
and the
Installation of Plumbing, Heating and Electrical Systems
USA Standard A119.1 — 1969

NFPA No. 501B — 1958

This Edition of Standard on Mobile Homes

This Standard has been developed by a USA Standards Committee on Mobile Homes and Travel Trailers sponsored jointly by the Mobile Homes Manufacturers Association, the National Fire Protection Association, and the Trailer Coach Association. Personnel of the Committee are listed on pages A119.1-2 and A119.1-3. It has been approved by all three sponsoring organizations and approved by the United States of America Standards Institute under date of January 27, 1969. Action on behalf of the NFPA took place at the NFPA Annual Meeting, May 20-24, 1968, at Atlanta, Georgia. Tentative Interim Amendment No. 1-1968 has also been processed in accordance with NFPA procedures concerning paragraphs 10.7, 10.10 and 10.11 of Part IV and this Amendment appears on page A119.1-106.

Origin and Development of Standard on Mobile Homes

This Standard replaces the American Standard Installations of Plumbing, Heating, and Electrical Systems in Mobile Homes (A119.1-1963) and the NFPA Standard for Fire Prevention and Fire Protection in Mobile Homes and Travel Trailers (NFPA No. 501B-1964). The formation of this Committee under the aegis of the United States of America Standards Institute (formerly American Standards Association) combined the activities of the former ASA A119.1 Committee and the NFPA Committee on Trailers and Trailer Courts and resulted from action taken by the Boards of Directors of the three sponsoring organizations, with the approval of the ASA, in 1964. The principal changes made in this text as compared with the 1963 edition of A119.1 are indicated by vertical marginal rules opposite the affected paragraphs.

Committee on Mobile Homes and Travel Trailers

Corrected to July 1, 1968

A USA Standards Committee of the United States
of America Standards Institute (A119)

L. E. Henry, *Chairman*,
Southern California Gas Company, Box 3249, Terminal Annex,
Los Angeles, Calif. 90054
(rep. American Gas Association)

J. C. Robertson, *Vice-Chairman*,
Maryland State Fire Marshal, 301 West Preston Street,
Baltimore, Maryland 21201
(rep. Fire Marshals Association of North America)

George D. Matthews, † *Secretary*,
Mobile Homes Manufacturers Association, 20 N. Wacker Drive,
Chicago, Illinois 60606

Francis Greenleaf, † *Assistant Secretary*,
Trailer Coach Association, 1340 W. Third St., Los Angeles, Calif. 90017

Walter D. Peck, † *Assistant Secretary*,
Standards Div., Recreational Vehicle Institute, Inc., 2720 Des Plaines Ave.,
Des Plaines, Ill. 60018

George H. Tryon, (SFPE)†, *Assistant Secretary*,
National Fire Protection Association, 60 Batterymarch Street,
Boston, Mass. 02110

Leroy V. Abbott, Insurance Co. of
North America

Stanley S. Backner, Plumbing Fix-
ture Manufacturers Association

Russell E. Bahr, California Division
of Building & Housing Standards

Roy J. Boston, Conference of State
Sanitary Engineers

Keith D. Clots, National Association
of Plumbing-Heating-Cooling Con-
tractors

David Curley, American Insurance
Association

Kendall H. Flint, Gas Vent Institute
T. Stuart Flood, American Society of
Sanitary Engineering

Tom S. Gable, National Sanitation
Foundation

Hans R. Grigo, National Safety Coun-
cil

John H. Hast, National Park Service,
U. S. Dept. of the Interior

Jordan Helman, American Society of
Heating, Refrigerating and Air-
Conditioning Engineers

Walter H. Johnson, National LP-Gas
Association

John C. Jureit, American Society of
Civil Engineers

Arthur Kretschman, Gas Appliance
Manufacturers Association

Norman Laffer, International Asso-
ciation of Plumbing and Mechanical
Officials

Eugene L. Lehr, Public Health Ser-
vice, National Center for Urban and
Industrial Health

Gordon B. Lemke, American Mutual
Insurance Alliance

Don Longworth, Mobile Homes Re-
search Foundation

H. B. Love, National Electrical Code
Committee (USA C1)

V. T. Manas, American Society of
Mechanical Engineers

D. M. Manson, † Canadian Standards
Association Testing Laboratories

John Martin, Mobile Homes Manufac-
turers Association

W. R. Milby, Electric Light and
Power Group

Thomas M. Murphy, New York State
Division of Housing and Com-
munity Renewal

Edwin A. Olsen, Compressed Gas As-
sociation, Inc.

Frank Osborn, Air Conditioning and
Refrigeration Institute

J. A. Reade, American Gas Associa-
tion

Robert G. Reichel, U. S. Dept. of
Housing and Urban Development

M. Z. Reuben, Building Officials Con-
ference of America

†Nonvoting.

Myron J. Sasser, Southern Building Code Congress
W. J. Smith, Underwriters' Laboratories, Inc.
M. W. Smithman, National Association of Home Builders
Harry A. Stuart, Recreational Coach & Equipment Association
Earl W. Swett, Mobile Homes Manufacturers Association

C. J. Van Zandt, Traller Coach Association
Glenroy M. Walker, Fire Marshals Association of North America
R. E. Ward, International Association of Electrical Inspectors
Paul H. Winter, National Electrical Manufacturers Association
Robert S. Wyly, Building Research Division, National Bureau of Standards

Alternates

Gaylon R. Claiborne, Alternate to M. Z. Reuben, Building Officials Conference of America

Philip Dykstra, Alternate to Hans R. Grigo, National Safety Council

Robert J. Evans, Alternate to F. W. Osborn, Air Conditioning and Refrigeration Institute

F. E. Hodgdon, Alternate to L. E. Henry and J. A. Reade, American Gas Association

Arthur Jungdahl, Alternate to Kendall H. Flint, Gas Vent Institute

P. E. Kent, † Alternate to D. M. Manson, Canadian Standards Association

Herbert Luoma, Alternate to Arthur Kretschman, Gas Appliance Manufacturers Association

Neil MacLean, Alternate to Norman Letter, International Association of Plumbing and Mechanical Officials

J. P. Markey, Alternate to W. R. Milby, Electric Light and Power Group

Ronald G. Mayer, Alternate to T. Stuart Flood, American Society of Sanitary Engineering

Jiyun Nakaji, Alternate to C. J. Van Zandt, Traller Coach Association

Arthur H. Neill, Alternate to Eugene L. Lehr, Public Health Service, National Center for Urban and Industrial Health

R. O. Paulson, Alternate to T. Stuart Flood, American Society of Sanitary Engineering

C. W. Phillips, Alternate to Robert S. Wyly, National Bureau of Standards

Earl W. Roberts, Alternate to Paul H. Winter, National Electrical Manufacturers Association

Joseph P. Schock, Alternate to Eugene L. Lehr, Public Health Service, National Center for Urban and Industrial Health

Frank Stetka, Alternate to George H. Tryon, National Fire Protection Association

W. Thomas, Alternate to David Curley, American Insurance Association

Herbert P. Tinning, Alternate to Jordan Helman, American Society of Heating, Refrigerating and Air-Conditioning Engineers

Warden F. Wilson, Alternate to V. T. Manas, American Society of Mechanical Engineers

Herbert Witte, Alternate to W. J. Smith, Underwriters' Laboratories, Inc.

Rene H. Yorke, Alternate to W. J. Smith, Underwriters' Laboratories, Inc.

This Committee functions as a Sectional Committee (A119) of the USA Standards Institute under the joint sponsorship of the Mobile Homes Manufacturers Association, the Traller Coach Association, and the National Fire Protection Association.

†Non-voting.

Standard for Mobile Homes

Body and Frame Design and Construction Requirements and the Installation of Plumbing, Heating and Electrical Systems

USA Standard A119.1 — 1969
NFPA No. 501B — 1968

TABLE OF CONTENTS

Foreword	6
Part I Body and Frame Design and Construction Requirements	8
1. Introduction	8
2. Scope	8
3. Basic Principles	9
4. Definitions	9
5. General Requirements	10
6. On Site Structural Design Requirements	12
7. Construction	15
8. Design Considerations	18
9. Tests	18
10. Structural Design Requirements for In-transit Conditions	19
Table I Accepted Engineering Practice Standards	22
Appendix I Equipment and Procedures for Determining Effective Flexural Rigidity (EI)	24
Appendix II Test Procedure for Roof Rafters or Roof Trusses	29
Appendix III	31
Part II Plumbing Systems	32
1. Introduction	32
2. Scope	32
3. Basic Principles	33
4. Definitions	34
5. General Requirements	39
6. Materials — Quality and Weight	40
Table II Standards for Plumbing System Components	41
7. Joints and Connections	45
8. Traps and Cleanouts	45
9. Plumbing Fixtures	48
10. Hangers and Supports	51
11. Water Distribution System	51
Table 2 Minimum Size Tubing and Pipe for Water Distribution Systems	55
12. Drainage Systems	56
13. Vents and Venting	59
Table 3 Distance of Fixture Trap from Vent	61
14. Test and Inspection	61
Part III Heating Systems	63
1. Introduction	63
2. Scope	63
3. Definitions	64

4. Fuel Supply Systems	66
5. Piping Systems	69
Table 4 Sizing Gas Piping Systems	72
6. Heat-Producing Appliances	77
Table 5 Minimum Metal Thickness for Ducts	79
Table 6 Maximum Allowable Static Pressures in Supply Duct Systems	79
Appendix to Part III — Applicable Standards	81
Part IV Electrical Systems	84
1. Introduction	84
2. Scope	84
3. Definitions	84
4. General Requirements	89
5. Materials and Equipment	89
6. Receptacle Outlets Required	89
7. Branch Circuits Required	90
8. Calculations for Lighting and Appliance Load	91
9. Disconnecting Means and Branch Circuit Protective Equipment	93
10. Power-Supply Assembly	94
11. Wiring Methods	96
12. Under Chassis Wiring (Exposed to Weather)	97
13. Switch and Receptacle Plates	97
14. Conductors in Outlet Boxes	98
15. Painting of Wiring	98
16. Polarization	98
17. Connection to Terminals and Splices	99
18. Wall Switches	99
19. Receptacle Outlets	100
20. Lighting Fixtures	100
21. Wiring of Expandable Units and Dual Units	101
22. Outdoor Outlets, Fixtures, Air-Cooling Equipment, Etc.	101
23. Grounding	102
24. Electrical Testing	104
25. Electrical Marking	105
Tentative Interim Amendment No. 1-1968	106

Standard for Mobile Homes

BODY AND FRAME DESIGN AND CONSTRUCTION REQUIREMENTS AND THE INSTALLATION OF PLUMBING, HEATING AND ELECTRICAL SYSTEMS

USA Standard A119.1 — 1969

NFPA No. 501B — 1968

Foreword

This USA Standard has been developed by the USA Committee on Mobile Homes and Travel Trailers (A119) of the USA Standards Institute. The USA Committee is sponsored jointly by the Mobile Homes Manufacturers Association, 20 North Wacker Drive, Chicago, Illinois 60606; the National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110; and the Trailer Coach Association, 1340 West Third Street, Los Angeles, California 90017. A roster of the personnel of the Committee which developed this Standard appears herein. The Committee membership is inclusive of those having a substantial interest in the subject as consistent with the Bylaws of the USA Standards Institute.

Subcommittees handle the detail technical work with one Subcommittee responsible for each of the "Parts" of the Standard. A number of specialists have served on these Subcommittees who are not members of the USA Committee. The sponsors wish to acknowledge with appreciation their cooperation and assistance in the development of this text.

In conformance with USA Standard Institute policy, the USA Committee responsible for this work is a standing committee which will periodically review this Standard in an effort to keep the information up to date. Anyone interested is invited to make recommendations for revisions to the Chairman and Secretary of the Committee.

This USA Standard for Mobile Homes (A119.1-1969) replaces the American Standard Installations of Plumbing, Heating, and Electrical Systems in Mobile Homes (A119.1-1963) and the NFPA Standard for Fire Prevention and Fire Protection in Mobile Homes and Travel Trailers (No. 501B-1964). Currently work is proceeding on the development of a USA Standard for Recreational Vehicles and standards covering mobile home parks and recreational vehicle parks. The American Standard Installations of Plumbing,

Heating and Electrical Systems in Travel Trailers (A119.2-1963) and the NFPA Standard for Fire Protection in Trailer Courts (NFPA No. 501A-1964) may be used as reference material pending the updating of both texts.

The participation of the National Fire Protection Association as a sponsor of this project is administrative and undertaken in the sole interest of safety to life and property from fire and allied hazards. Some portions of this Standard cover areas outside the scope of NFPA's normal sphere of activity but are of interest and concern to the other sponsors and to users of mobile homes. The NFPA Board of Directors has authorized the Association's participation with the understanding that its responsibility extends only to those areas within its scope.

Part I

Body and Frame Design and Construction Requirements

1. Introduction

1.1 Those members of the engineering profession and others associated with the design, manufacturing and quality control of mobile home construction have been aware of the need for standards leading to the providing of healthful and safe housing with complete living facilities arranged and equipped to assure suitable living conditions.

1.2 Much of the material in Part I has been taken from, or is based on, nationally recognized standards for construction including those issued by the Federal Housing Administration, the Building Officials Conference of America, Inc., the Southern Building Code Congress, and the New York State Division of Housing and Community Renewal.

2. Scope

2.1 This standard covers the minimum requirements for materials, products, equipment and workmanship needed to assure that the Mobile Home will provide (a) the structural strength and rigidity, (b) the protection against corrosion, decay, insects and other similar destructive forces, (c) reasonable protection against the hazards of fire and windstorm, (d) resistance to the elements, (e) durability and economy of maintenance as set forth in the provisions of this Standard.

2.2 This standard is not intended as a design specification or an instruction manual for untrained persons.

2.3 Wherever existing standards and this standard differ, the requirements of the latter shall apply.

2.4 This standard has been prepared with the emphasis on performance as opposed to its being a specification standard. The provisions of this standard are not intended to prevent the use of any material, appliance, installation, device, arrangement, or method of construction not specifically prescribed herein, provided any such alternative has been approved or listed. An enforcement agency may approve any such alternative if it finds the proposed design is satisfactory for the purpose intended and if the material, appliance, installation, device, arrangement, and

method of work offered is, for the purpose intended, at least the equivalent of that prescribed in this Standard in quality, strength, effectiveness, durability, safety, and for the protection of life and health. An enforcement authority may require that satisfactory evidence or proof be submitted to substantiate any claims that may be made regarding the use of any such alternative.

3. Basic Principles

3.1 The principles of this standard are given as basic goals in the construction of mobile homes, which will also serve as guide lines for the understanding of this standard. These principles will serve to define the intent of this standard when considerations arise which are not covered in the body of the standard.

Principle No. 1. To provide safe, healthful and comfortable living facilities with adequate storage space and economy of maintenance.

Principle No. 2. To provide adequate natural light and ventilation.

Principle No. 3. To provide structural strength and rigidity sufficient for design loads, both in transit and on site.

Principle No. 4. To provide adequate running gear and hitch for safe transportation of the mobile home.

Principle No. 5. To provide equipment designed and installed for safety of operation, ease of service, and adequate for the intended use.

Principle No. 6. To provide installed materials of adequate specification to resist deterioration.

Principle No. 7. To provide against the entrance of water and winds at all joints, connections, and openings in exterior surfaces.

Principle No. 8. To provide arrangement of habitable spaces for fire and health safety.

4. Definitions

4.1 **Accepted Engineering Practice.** The regulations, specifications and standards listed in Table I (Accepted Engineering Practice Standards) shall be deemed to represent accepted engineering practice in respect to materials, equipment, systems or method of construction.

4.2 Habitable Room. A room or enclosed floor space arranged for living, eating, food preparation and sleeping purposes (not including bathrooms, water closet compartments, laundries, pantries, foyers, hallways, and other accessory floor spaces).

4.3 Loads.

4.3.1 Dead Load. The weight of all permanent construction including walls, floors, roof, partition, and fixed service equipment.

4.3.2 Live Load. The weight superimposed by the use and occupancy of the mobile home, including wind load and snow load, but not including dead load.

4.3.3. Wind Load. The lateral or vertical pressure or uplift on the mobile home due to wind blowing in any direction.

4.4 Hurricane and Windstorm Resistive Mobile Home. A mobile home which meets the added wind design load and anchorage requirements of Section 6.

4.5 Mobile Home. A vehicular, portable structure built on a chassis and designed to be used without a permanent foundation* as a dwelling when connected to indicated utilities.

5. General Requirements

5.1 Minimum Requirements. The design and construction of a mobile home shall conform with the provisions of this standard. Requirements for any size, weight, or quality of material modified by the terms of "minimum," "not less than," "at least," and similar expressions are minimum standards. The manufacturer or installer may exceed these standards provided such deviation does not result in any inferior installation or defeat the purpose and intent of this standard.

5.2 Workmanship. All construction methods and workmanship shall be in conformance with accepted engineering practices to insure durable, livable, and safe housing.

5.3 Structural Analysis. The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis *or* by suitable load tests to simulate the actual loads and conditions of application that occur both in transit and on site. However, tests for flexural rigidity shall be made of each different design in accordance with Section 6 of this Part.

*The phrase "without a permanent foundation" indicates that the support system is constructed with the intent that the mobile home placed thereon will be moved from time to time at the convenience of the owner.

5.4 Design Approval Procedure. Approval of plans, specifications, and completed mobile homes by the authority having jurisdiction under the provisions of this standard shall be accomplished by a certificate of compliance from a firm or organization acceptable to the authority having jurisdiction, by a registered professional engineer or architect, or by a nationally recognized testing laboratory.

5.5 Hurricane and Windstorm Resistive Design. Only mobile homes which meet the requirements of Section 6 may be designated "Hurricane and Windstorm Resistive". No similar designation which would imply hurricane or windstorm resistance shall be used when the home does not meet these requirements.

5.6 New Materials and Methods. Any new material or method of construction not provided for in this standard and any material or method of questioned suitability, proposed for use in the manufacture of the structure, shall nevertheless conform in performance as outlined in 5.1 of this Part. All test specimens and construction samples shall be representative of the materials, workmanship and details used in actual practice.

5.7 Acceptability of Materials. Compliance with applicable provisions of prescribed Standards (Table I), except as otherwise prescribed in this standard, shall constitute compliance with this standard. Deviations from applicable provisions of prescribed Standards (Table I) when they meet the performance requirements of this standard shall constitute compliance with the standard.

5.8 Structural Requirements. The mobile homes shall be designed and constructed as a completely integrated structure capable of sustaining the design load requirements of this standard and shall be capable of transmitting these loads to properly designed piers or foundation without causing an unsafe deformation or abnormal internal movement of the structure or its structural parts. (See 6.2 of this Part). For in-transit condition, the integrated structure shall be capable of transmitting the loading specified to the wheel assembly, which in turn shall be designed to safely transmit these loads to the ground. (See 10.1 of this Part).

5.9 Allowable Design Stress. The design stresses of all materials shall conform to accepted engineering practice. The use of materials not identified as to strength or stress grade shall be limited to the minimum allowable stresses under accepted engineering practice.

5.10 Alternate Test Procedures. In the absence of listed and prescribed Standards, the manufacturer shall develop or cause to be developed necessary tests to demonstrate the structural properties and the significant characteristics of the method employed. Such tests shall be made by a recognized testing organization or may be made and certified to by the manufacturer. Copies of the test results shall be kept on file by the mobile home manufacturer.

6. On Site Structural Design Requirements

6.1 Design Dead Loads. Design dead loads shall be the actual dead load (see 4.3.1 of this Part) supported by the structural assembly under consideration.

6.2 Design Live Loads. The design live loads shall be as specified in 6.3, 6.4, 6.6, 6.8, and 6.9 of this Part and shall be considered to be uniformly distributed. Pier spacings on which the design is based shall be specified by the manufacturer on the manufacturer's certificate.

6.3 Wind Loads and Snow Loads. When one of the components of the live load is wind or snow load, unit stresses may be increased in accordance with standard engineering practice, but not to exceed the amounts specified herein.

6.3.1 Standard Wind.

Horizontal	15 lb/ft ²
Vertical (horizontal projection)	9 lb/ft ² uplift
Vertical Downward	See 6.4 Roof Loads

6.3.2 Hurricane Wind. Mobile homes which are designated "Hurricane and Windstorm Resistive" shall be designed for the following wind loads.

Horizontal	25 lb/ft ²
Vertical (horizontal projection)	15 lb/ft ² uplift
Vertical Downward (See 6.4 Roof Loads)	30 lb/ft ²

6.4 Roof Loads. Flat, curved and pitched roofs shall be designed to resist the following live loads, applied downward on the horizontal projection:

- NORTH ZONE:** 30 lb/ft² (including wind and snow loads) and normal unit stresses may be increased by 15%.
- MIDDLE ZONE:** 20 lb/ft² (including wind and snow loads) and normal unit stresses may be increased by 25%.

HURRICANE ZONE: 30 lb/ft² (including wind and snow loads) and normal unit stresses may be increased by 33-1/3%.

See Appendix III for Zone Map of U.S.A.

The Manufacturer's Certificate posted in the mobile home (Paragraph 7.5.1 of this Part) shall state which of these structural zones of the U.S.A. the mobile home has been designed for; and the certificate shall show a reproduction of the zone map in Appendix III at no less than half scale.

6.5 Fastening of Structural Systems. Roof framing shall be securely fastened to wall framing, walls to floor structure, and floor structure to frame to secure and maintain continuity between the floor and frame (if provided), so as to resist wind overturning and sliding as imposed by design loads in 6.3.1 of this Part. (Directions for anchorage shall accompany all mobile homes.)

6.5.1 HURRICANE AND WINDSTORM RESISTIVE MOBILE HOMES shall have over-the-roof ties with provisions for distributing the load of these ties, and provisions for the attachment of anchors so as to resist wind overturning and sliding as imposed by the design loads in 6.3.2 of this Part.

6.6 Walls. The walls shall be of sufficient strength to withstand vertically, the maximum roof load requirements as defined in 6.3.1, 6.3.2, and 6.4 of this Part, without exceeding the deflections as specified in 6.9. The connections between bearing walls, floor, and roof framework members shall be fabricated in such a manner as to provide support for the material used to enclose the mobile home and to provide for transfer of all lateral and vertical loads to the floor and frame foundation.

6.7 Interior Partition. Whenever an interior partition is designed to serve as a secondary structural member, it shall be constructed with values adequate for the purpose intended.

6.8 Floors. Floor assemblies shall be designed in accordance with accepted good engineering practice to support a uniform live load of 40 lb/sq. ft., plus the dead load of the materials. In addition (but not simultaneously), floor shall be able to support a 200-pound concentrated load on a 2-inch diameter disc at the most critical location with a maximum deflection not to exceed 1/8 inch relative to floor framing.

6.9 Design Load Deflections. When a structural assembly is subjected to total design live and dead loads, the deflections shall not exceed the following:

Floor	L/240
Roof and Ceiling	L/180 (see Appendix II)
Sidewalls	L/180

Where L = the clear span between supports.

6.10 Ultimate Load Tests. Every structural assembly shall be capable of sustaining its dead load plus superimposed live loads equal to $1\frac{3}{4}$ times the required live loads for a period of 12 hours without failure. Failure shall be considered rupture, fracture, or residual deflections which are greater than the limits set in 6.9 of this Part.

6.11 Basic Structural Integrity. Basic structural integrity shall be determined by the method described in Appendix I. Effective flexural rigidity of the complete mobile home structure is the basis of this requirement.

(a) For forward loading this is expressed mathematically as follows:

$$(\overline{EI})_f = 36 L_f^3 (P/y)_f; \text{ lb-in}^2 \quad (1)$$

where:

E = Modulus of elasticity

I = Moment of inertia

$(EI)_f$ = Effective flexural rigidity for forward span

L_f = Forward span length in feet between supports

$(P/y)_f$ = Forward spring rate, lb-in

The minimum values for acceptable performance are given in Figure 1, Appendix I.

(b) For rear loading the following shall apply:

$$\frac{1}{2} (\overline{EI})_r = \frac{575}{2} L_r^3 (P/y)_r [1 + L_f/L_r]; \text{ lb-in}^2 \quad (2)$$

where:

$(EI)_r$ = Effective flexural rigidity for rear span

L_r = Rear span length, ft.

$(P/y)_r$ = Rear spring rate, lb-in.

The acceptable value for $\frac{1}{2} (\overline{EI})_r$ should be within ± 30 percent of $(EI)_f$.

7. Construction

7.1 Weather Resistance. Exterior covering shall be of moisture and weather resistive materials attached with corrosion resistant fasteners to resist wind and rain. Metal coverings shall be of corrosion resistant materials.

7.2 Condensation Resistance. Spaces within outside walls and ceilings shall be ventilated and/or shall be provided with corrosion resistant vapor type barriers on the warm side of the walls and ceilings or other means shall be used to avoid condensation within these structures.

7.3 Interior Surfaces. In all habitable spaces, interior exposed ceiling, wall, and partition surfaces shall be faced with materials whose flame-spread classification shall not exceed Class C as defined in Section 6-2114 of the Code for Safety to Life from Fire in Buildings and Structures, NFPA No. 101-1967, (flame spread at more than 75 but not more than 200) when tested by the Standard Method of Test for Surface Burning Characteristics Building Materials (USAS A2.5-1963, ASTM E84-67, UL 723-1960, NFPA No. 255-1966). All wall and partition surfaces shall be capable of resisting horizontal load of not less than five pounds per square foot.

7.4 Vermin Resistance. Exterior surfaces shall be effectively sealed so as to prevent the entrance of rodents.

7.5 Heat Loss. The total calculated heat loss of the living unit at the outdoor design temperature as certified in 7.5.1 of this Part shall not exceed the following:

a. 50 Btu/hr sq. ft. of the total floor area, or 375 Btu/hr lineal ft. of the perimeter of the space to be heated to 70°F, whichever is the greater.

b. For electrically heated mobile homes 0.184 watts/hr. sq. ft., F (temperature difference), (0.628 Btu/hr. sq. ft., F), and not to exceed 40 Btu/hr. sq. ft. of floor area, whichever is less.

c. The minimum total resistance factors (R) of the wall, ceiling and floor shall never be less than the following:

Type of Fuel Use for Heating	Wall	Ceiling	Floor
Gas or Oil	5.5	8.2	5.5
Electric	6.5	13.0	12.0

The total "R" value is obtained by adding the insulation "R" value together with the "R" value of mobile home construction. Typical mobile home construction "R" values, excluding framing, have been calculated to be: Sidewalls R=2.0; Floor and ceiling R=3.0. These

CERTIFICATE	
The manufacturer of this Mobile Home _____, hereby certifies:	
1) Model No. _____ Mobile Home is designed to meet the Heat Loss Requirements of USA Standard A119.1 (Section 7.5) which provides that heat loss does not exceed: (Check one)	
a) 50 Btu per sq. ft. of floor area	
b) 40 Btu per sq. ft. of floor area if electrically heated	
c) 375 Btu per lineal ft. of outside wall	
with an indoor average temperature of 70°F at no more than 15 mph wind velocity and the following outdoor design temperatures:	
_____°F with storm sash	
_____°F without storm sash	
2) The _____ Furnace installed (Make and Model Number)	
in this Mobile Home has the capacity of maintaining a 70°F average inside temperature, at wind velocities of no more than 15 mph, with an outdoor temperature of:	
_____°F with storm sash	
_____°F without storm sash	
The liability of the manufacturer of the furnace _____ (Name)	
_____ is limited to the printed warranty for the (Address)	
furnace, furnished herewith, to the purchaser.	
_____ (Manufacturer)	
_____ (Address)	

Figure 2

typical R values are to be calculated using all component materials and spaces as outlined in the latest edition of the ASHRAE Handbook of Fundamentals (see footnote).

7.5.1 The mobile home manufacturer shall permanently affix a certificate (see Figure 2) to an interior surface of the home that is readily visible to the home owner. The certificate shall specify the following:

a. The lowest outdoor design temperature at which the mobile home heat loss complies with Paragraph 7.5.*

- (1) With storm sash.
- (2) Without storm sash.

b. The lowest outdoor design temperature at which the installed furnace will maintain a 70°F. temperature inside the home with or without storm sash.

*Outdoor design temperature may be found in the "Handbook of Fundamentals" of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 345 East 47th St., New York, N.Y. 10017. (Price: \$12.00 Members; \$20.00 Non-Members). In the 1967 volume this information may be found in Chapter 22, "Weather Data and Design Conditions".

7.5.2 Wall, floor, and ceiling cavity "R" and "U" factors shall be calculated as outlined in the latest edition of the ASHRAE Handbook of Fundamentals.*

7.5.3 Framing Heat Loss. For the purpose of heat loss calculations, the following stud areas shall be assumed:

- Wall — 20% of net wall area (less windows)
- Ceiling — 5% of total ceiling area
- Floor — 10% of net floor area (less duct area)

The following "U" factors shall be used when calculating stud heat loss:

Structure	"U" Factor	"R" Factor
Wall (1 $\frac{5}{8}$ stud)	.32	3.12
Wall (2 $\frac{5}{8}$ stud)	.23	4.35
Wall (3 $\frac{5}{8}$ stud)	.18	5.55
Ceiling	.23	4.35
Floor	.32	3.12

7.5.4 Ventilation Heat Loss. The following shall be used to estimate ventilation heat loss:

Outdoor Design Temperature—F	Ventilation Allowance—Btu/hr
40°	3330
30°	4440
20°	5550
10°	6660
0°	7780
-10°	8880
-20°	10000
-30°	11110
-40°	12200

7.5.5 Duct Heat Loss. The supply duct heat loss shall be calculated separately using the actual duct surface area and the actual thickness of insulation between the duct and outside of the mobile home. If there is an air space of $\frac{1}{2}$ inch or less, the heat duct shall be assumed in contact with the insulation. If there is an air space of over $\frac{1}{2}$ inch between the duct and the insulation, no

*Available from the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 345 East 47th St., New York, N.Y. 10017. (Price: \$12.00 Members; \$20 Non-Members.)

special heat loss need be calculated — if the cavity in which the duct is located is assumed to be at 70°F. The average temperature inside the supply duct shall be assumed to be at least 130°F for the purpose of calculation.

8. Design Considerations

8.1 Light and Ventilation. Adequate provisions shall be made for light and ventilation in accordance with the following:

8.1.1 Habitable Rooms. Habitable rooms shall be provided with windows or doors whose total glass area is not less than 10 percent of the floor area. An area equivalent to not less than 5 percent of the floor area shall be available for unobstructed ventilation. In addition, if the ventilation area in the kitchen is less than 3 square feet, a fan with a minimum rated capacity of 100 CFM shall be provided in the kitchen.

8.1.2 Bathroom. The light and ventilation in the bathroom shall comply with Paragraph 8.1.1. In addition, if the ventilation area is less than 1½ square feet, a fan with a minimum rated capacity of 25 CFM shall be provided.

8.2 Ceiling Height. The minimum ceiling height in the main structure of the mobile home shall be not less than 7 feet, 0 inch. Any habitable area of greater than 50 square feet, but considered as a secondary structure shall have a minimum ceiling height of 6 feet, 4 inches.

8.3 Exits. Mobile homes shall have a minimum of two exterior doors located remote from each other. Doors shall be designed for exterior use, and in no case be less than 24 inches wide. Exterior doors shall permit opening from the inside by the simple operation of a single knob or lever.

9. Tests

9.1 General. Unless based on accepted engineering design (see 5.3 of Part I) for the use indicated, all new mobile home materials, equipment, systems or methods of construction not provided for in this standard, shall be subjected to the tests specified in 5.10 of Part I.

9.2 Structural Integrity. Basic structural integrity as defined in 6.11 of Part I shall be determined by tests as described in Appendix 1. This may be accomplished by the manufacturer or by a recognized testing organization.

9.3 Heat Loss. Heat loss shall be determined by accepted engineering methods or tests to assure compliance with the requirements of 7.5 of Part I.

10. Structural Design Requirements for In-transit Conditions

10.1 Chassis Assembly. The chassis assembly in conjunction with the mobile home structure shall be designed and constructed so as to be capable of sustaining the dead load plus 3 pounds per square foot floor load and the superimposed dynamic load resulting from over the road movement. (See 6.11 of Part I). The design shall be such as to insure rigidity and structural integrity of the complete mobile home structure and to insure against unsafe deformation or exceeding the allowable stresses of the materials that make up the assembly. All metal surfaces shall be protected against corrosion with an approved paint or other approved protective means.

10.1.1 Hitch Assembly. The hitch assembly which includes the "A" frame and coupling mechanism shall be rigidly constructed and securely fastened to the main structure to assure safe and adequate transfer of the maximum load between the mobile home and the hitch assembly.

10.1.2 Coupling Mechanism. The coupling mechanism which is normally of the socket type shall be securely fastened to the "A" frame in such a manner as to assure safe and adequate transfer of maximum loads including impact loads between the mobile home and hitch assembly and the towing vehicle. Couplings must be equipped with a manually operated mechanism so adapted as to prevent disengagement of the unit while in operation. In addition to this positive locking mechanism the coupling shall be so designed that it can be disconnected regardless of the angle of the mobile home to the towing vehicle. With the mobile home parked on level ground, the center of the socket of the coupler shall not be less than 20 inches nor more than 26 inches from the ground level.

10.2 Running Gear Assembly. The running gear assembly which includes springs, spring hangers, axles, bearings, wheels, brakes, rims and tires with their related hardware shall be designed in accordance with accepted engineering practice to adequately sustain the designed loads, as indicated in Paragraph 10.1, and provide for the mobility of the mobile home. The subject assembly shall transmit the mobile home load to the ground without causing unsafe deformation or internal movement of any of the

mobile home structural parts. The location of the running gear assembly in relation to the over-all length of the mobile home and its total weight including all its contents shall be such as to provide sufficient hitch weight to assure good and safe towing and braking qualities. Hitch weight should not be less than 12 per cent of the total weight of the mobile home nor more than 25 per cent. This hitch loading can normally be obtained by locating the running gear approximately $2/3$ of the total chassis length to the rear of the front end.

10.2.1 Spring and Spring Hangers. Spring assemblies and hangers, shackles, bushings, and mounting bolts shall be capable of withstanding all the design loads as outlined in Paragraph 10.1 without exceeding maximum allowable stresses as set forth in the SAE Handbook† published by the Society of Automotive Engineers. Full recognition must be given both to operating stress and to fatigue life in determining the suitability of any spring suspension system. The capacity of the spring system shall be such as to assure that under maximum load conditions sufficient clearance will be maintained between tire and wheel well to provide for unimpeded wheel and tire movement.

10.2.2 Axles. Axles shall be manufactured in accordance with accepted standards to a degree of accuracy that will assure proper fit of bearings and brake mountings. The number of axles used will depend upon the total load to be carried by the undercarriage and the maximum load carrying capacity of the axle as specified by the axle manufacturer.

10.2.3 Hubs and Bearings. Hubs and bearings shall be provided in accordance with design load requirements as described in Paragraph 10.1. Bearings shall be manufactured to specific standards so as to insure interchangeability with replacement parts. Provisions for proper lubrication with properly applied seals shall be provided in accordance with good engineering practice.

10.2.4 Wheels and Rims. Wheels and rims shall be furnished and installed in accordance with the load requirements (Paragraph 10.1), the recommended practices contained in the latest edition of the Yearbook* of The Tire & Rim Association, and the recommendations of the wheel and rim manufacturer.

†Available from the Society of Automotive Engineers, 485 Lexington Ave., New York, N.Y. 10017 (Price \$25.00 List).

*Available from the Tire and Rim Association, Inc., Command Building, 34 N. Hawkins Ave., Akron, Ohio 44313 (Price: \$3.75).

10.2.5 Tires. Tires installed on mobile homes shall be capable of safely carrying all design loads, due consideration being given to anticipated usage.

10.2.6 Brakes. Brakes used shall be manufactured to accepted and listed standards and installed in accordance with the brake manufacturers recommendations. They shall be of the proper size, type, number and design, with method of actuation to adequately meet the stopping distance performance standards herein prescribed.

10.2.6.1 Acceptance Standards. Brakes on tractor and mobile homes shall be such that the maximum stopping distance from an initial velocity of 20 MPH shall not exceed 40 feet. (U.S. Department of Transportation Regulations)

10.2.7 Low Voltage Wiring. Electrical wiring between mobile home and towing vehicle shall comply with all applicable requirements of the U.S. Department of Transportation Motor Carrier Safety Regulations.

TABLE I
Accepted Engineering Practice Standards

Aluminum

Aluminum Construction Manual, Specifications for
Aluminum Structures AA-1967

Steel

Specification for the Design, Fabrication and Erection
of Structural Steel for Buildings AISC-1963
Specification for the Design of Light Gage Cold-
Formed Steel Structural Members AISI-1962
Standard Specifications and Load Tables Open Web
Steel Joist SJI-1966
Code for Arc and Gas Welding in Building Construc-
tion AWS D1.0-66

Wood and Wood Products

Hardboard USDC CS 251-63
Lumber, Structural Glued Laminated — Inspection
Manual for AITC-200-1963
Softwood Plywood — Construction and Industrial PS 1-66
Plywood Design Specification (Form No. 66-510) APA, 1966
Plywood Stressed Skin Panels, Design and Fabrication
of (Form No. T64-370) APA, 1965
Plywood Beams, Design and Fabrication of (Form
No. T64-140) APA, 1964
Plywood Curved Panels, Design and Fabrication of
(Form No. F67-1510) PFS, 1967
Plywood Construction Guide (Form No. 66-450) APA, 1966
Stress Grade Lumber and Its Fastenings — National
Design Specifications for (N) FPA-1962*
Structural Design Data — Wood (N) FPA-1957
Timber Construction Standards AITC-100-1965
Design Specifications for Light Metal Plate Connected
Wood Trusses TPI-66

Unclassified

ASHRAE Guide and Data Book — Handbook of Fundamentals — 1967

AA — The Aluminum Association, 420 Lexington Ave., New York, N.Y.
10017

AISI — American Iron and Steel Institute, 150 East 42nd St., New York,
N.Y. 10017

AISC — American Institute of Steel Construction, 101 Park Ave., New
York, N.Y. 10017

*Amended July 1967

- AITC — American Institute of Timber Construction, 1700 K Street, N.W., Washington, D.C. 20006
- APA — American Plywood Association, 1119 A Street, Tacoma, Wash. 98401
- ASHRAE — American Society of Heating, Refrigeration and Air-conditioning Engineers, 345 East 47th Street, New York, N.Y. 10017
- AWS — American Welding Society, 345 East 47th St., New York, N.Y. 10017
- CS — Commercial Standards — available from Sup't. of Documents, U.S. Government Printing Office, Washington, D.C. 20402
- (N)FPA — National Forest Products Association (formerly National Lumber Manufacturers Assn.), 1619 Massachusetts Ave., N.W., Washington, D.C. 20036
- PFS — Plywood Fabricator Service, Inc., 119 A Street, Tacoma, Wash. 98401
- PS — Product Standard — available from Sup't. of Documents, U.S. Government Printing Office, Washington, D.C. 20402
- SJI — Steel Joist Institute, 1346 Connecticut Ave., N.W., Washington, D.C. 20036
- TPI — Truss Plate Institute, P.O. Box 253, Perrine, Florida 33157
- USDC — United States Department of Commerce, Washington, D.C. 20234

Appendix I

Equipment and Procedures for Determining Effective Flexural Rigidity (EI)

EQUIPMENT

The following is a description of the equipment required to perform a load-deflection test on a mobile home:

Item	Quantity Required	Description
1	2	Hydraulic jack: 5 ton.
2	2	Rear support: Heavy wall steel pipe with bearing plates welded to ends, 8 in. diameter pipe or equivalent may be used.
3	—	Steel shims: As required to level coach when on rear supports.
4	2	Forward supports: 5 ton adjustable screw jacks.
5	1	Tape measure: 50 foot.
6	2	Dial indicator: (3 in. diameter indicators having an overall range of 1 in. and reading down to 0.001 in. is suggested).
7	2	Apparatus stand with adjustable fittings for dial indicator.
8	500 lbs.	Test weight: Almost any material is suitable, such as steel shot in cloth mail bags, or lead shot is ideal for long term use.

PROCEDURE

The recommended procedure for running a load-deflection test at a manufacturers plant is given as follows. The objective of the test is to determine the spring rate, (P/y), of a mobile home. Once the spring rate is known the effective flexural rigidity, (EI), can be easily calculated.

Step

Procedure

- (1) Move mobile home to test area. For best results this should be a concrete pad that will provide a firm, non-yielding surface for the forward and rear supports. The area should be selected such that a stable temperature condition can be obtained.
- (2) Jack the running gear clear of the pad and position the rear supports. For two axle systems with an equalizer link, place the support under the equalizer (see Figure 3). For three axle systems position the supports under the forward equalizer link. Spread axle system should be supported at the steel frame midway between the axles. The mobile home should be kept as level as possible.

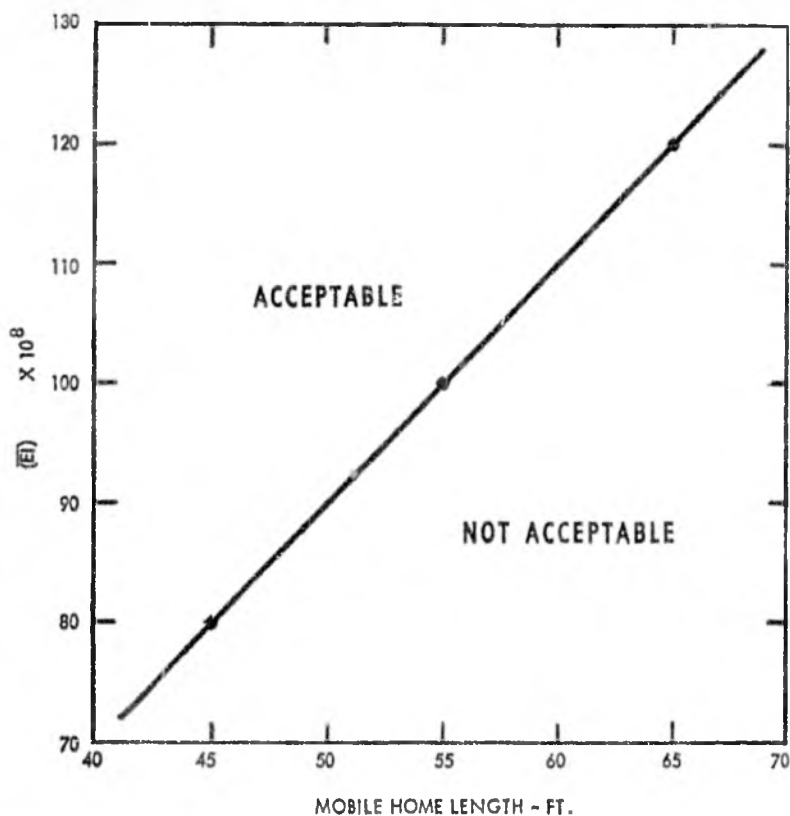


Figure 1

- (3) With the mobile home leveled, position the two forward screw jack supports (see Figure 3). These are brought up hand tight against the steel frame. Once in place, the screw jack fitted to the A-frame shall be retracted.
- (4) Measure the center-to-center distance between forward and rear supports. This dimension, in feet, is L_r in Equation 1-A (see also 6.11 of Part I).
- (5) With L_r known, find the midspan position and scribe a mark on the steel frame on both sides of the mobile home. Also, mark the midspan position inside the mobile home on the floor.

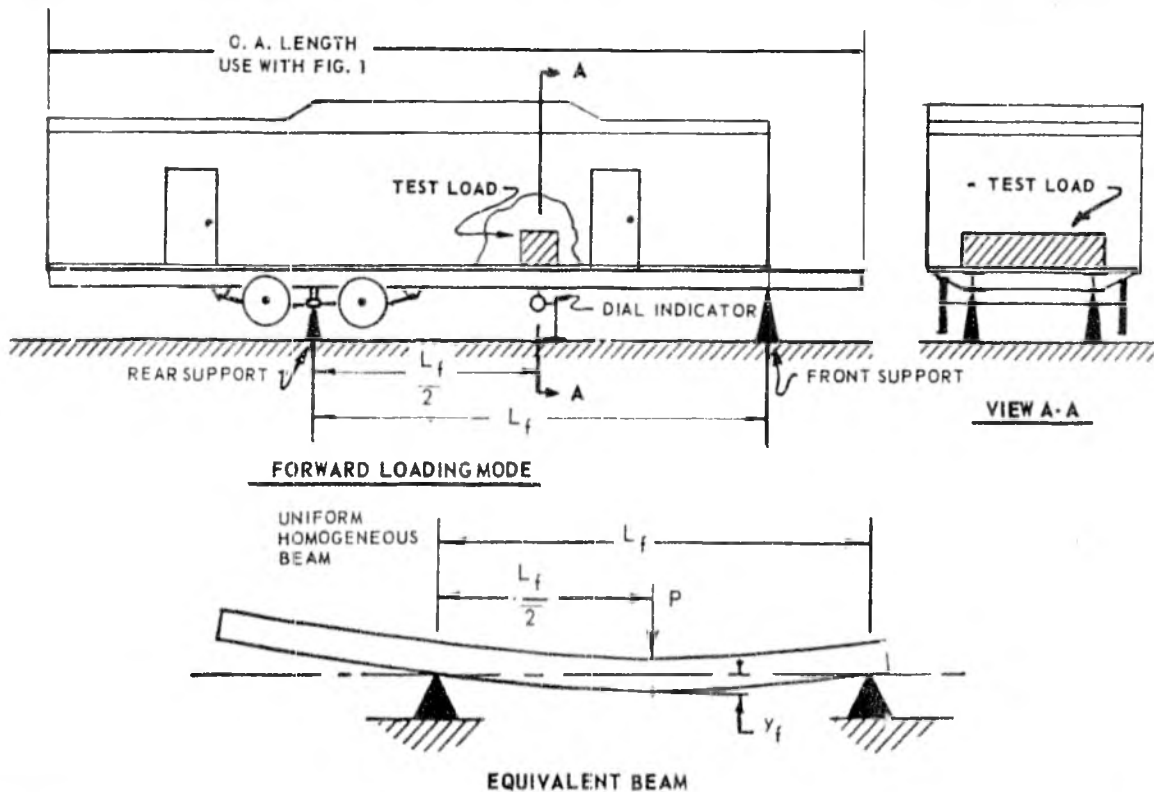


Figure 3

- (6) Position the dial indicators at the midspan locations (see Figure 3). Deflections are required at the steel frame *only*. Preload the dial indicators to any random reading so as to insure good contact between the indicator and the frame. Make sure the apparatus stands supporting the dial indicators are on a flat surface and are weighted down to prevent movement.
- (7) Note and record the initial dial indicator readings. Then, transfer 250 pounds of test weights into the mobile home and place on the floor at midspan such as shown in Figure 3. Note and record dial indicator readings. Apply another 250 pounds of weight and again take deflection readings.
- (8) With above data available plot the load-deflection curves for the mobile home; these should be very close to straight lines. The slope of the load-deflection curve is the spring rate, $(P/y)_t$, for the mobile home in the forward loading mode. Two spring rates will be found, one for each side of the mobile home. The average value should be used to calculate $(\overline{EI})_t$.
- (9) Apply the numerical values for the average forward spring rate, $(P/y)_t$, and span length, L_t , to Equation 1-A to obtain a numerical value for the forward effective flexural rigidity, $(\overline{EI})_t$.

Equation 1-A is as follows:

$$(\overline{EI})_t = 36 L_t^3 (P/y)_t; \text{ lb-in}^2 \quad (1-A)$$

Where:

E = Modulus of elasticity

I = Moment of inertia

L_t = Forward span length, ft.

$(P/y)_t$ = Forward spring rate, lb-in.

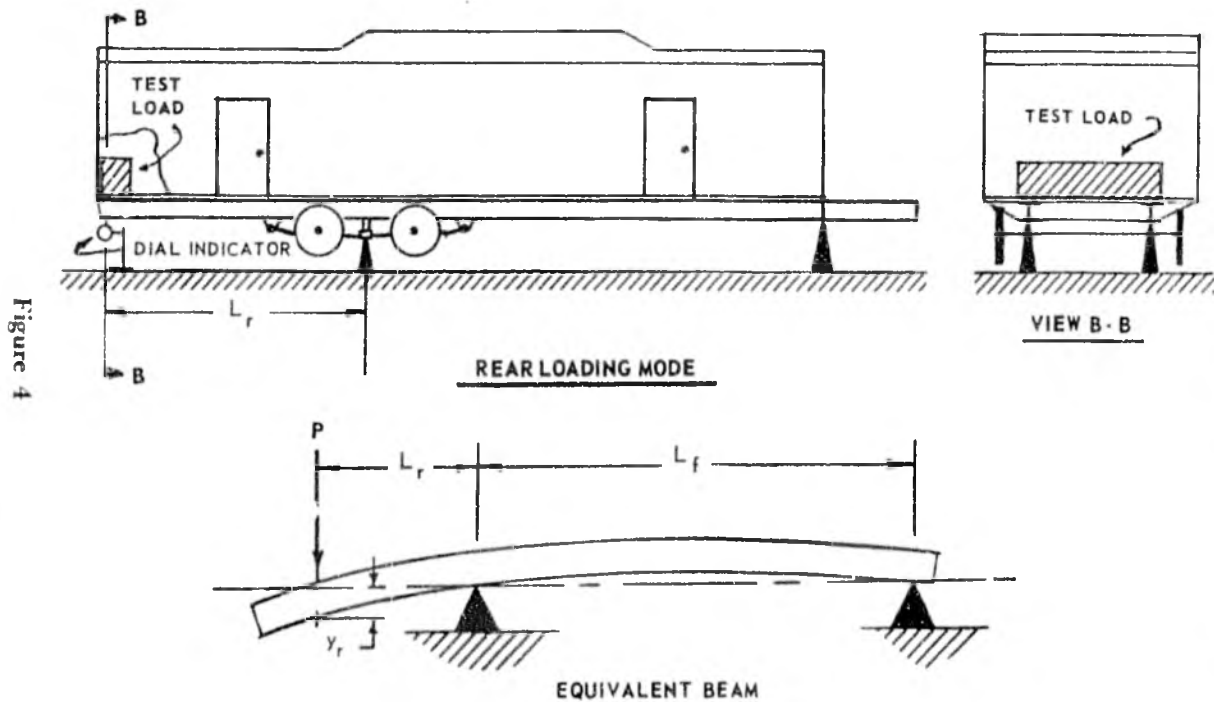
- (10) A similar procedure can be carried out for the rear loading mode (see Figure 4). Equation 2-A (adjusted) applies. The limited amount of information available suggests that the numerical value for effective flexural rigidity in the rear mode, $\frac{1}{2} (\overline{EI})_r$, should be within ± 30 percent of $(\overline{EI})_t$. Equation 2-A is as follows:

$$\frac{1}{2} (\overline{EI})_r = \frac{575}{2} L_r^3 (P/y)_r [1 + L_t/L_r]; \text{ lb-in}^2 \quad (2-A)$$

where:

L_r = Rear span length, ft.

$(P/y)_r$ = Rear spring rate, lb-in.



Appendix II

Test Procedure for Roof Rafters or Roof Trusses

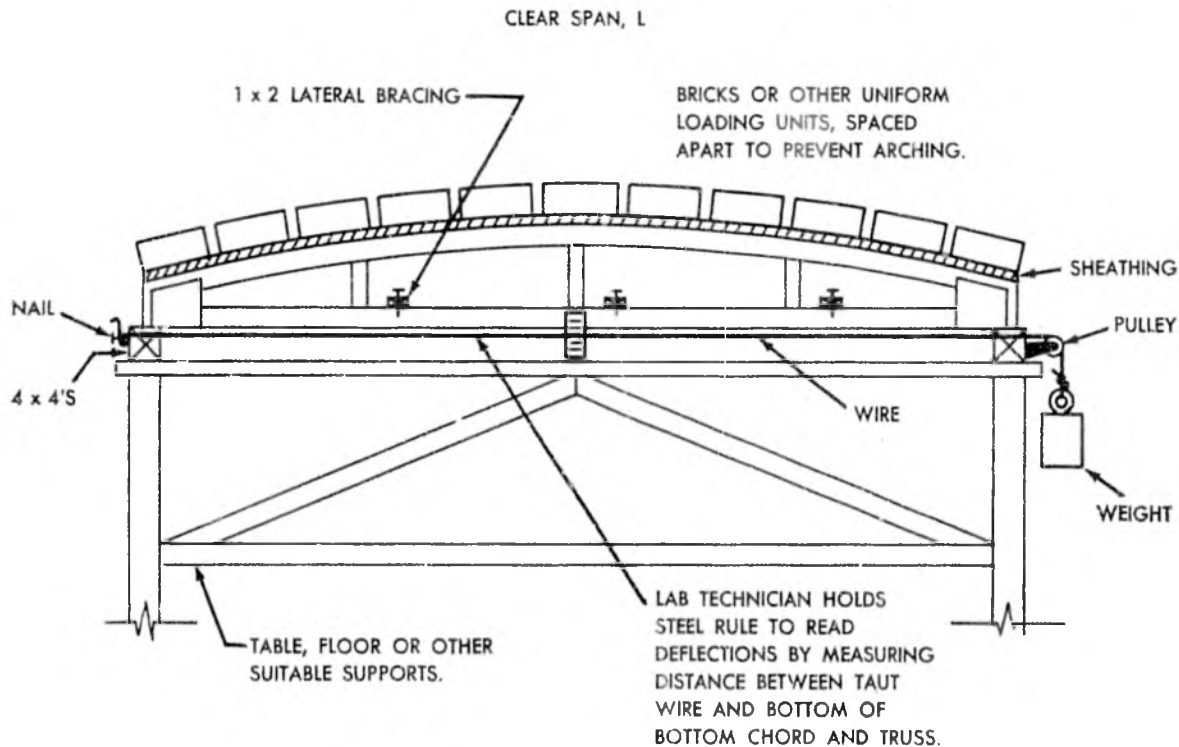
GENERAL:

Rafters and trusses may be tested in pairs, sheathed and mounted across supports, or singly in a suitable test facility. When tested in pairs, trusses shall be spaced at the design spacing. Trusses will be mounted on 4 inch by 4 inch supports accurately positioned to give the required clear span distance (L) as specified in the design of the truss. The top chord may be sheathed with the specified design sheathing or with 2 by 4 foot sheets $\frac{1}{4}$ inch plywood. Butting plywood sheets must be separated at least $\frac{1}{8}$ inch. Design sheathing shall be attached with specified design fasteners. Plywood sheathing shall be nailed with 4d nails not closer than 8 inch on center along each top chord. The bottom chord shall be cross tied with 1 x 2 inch stripping not closer than 24 inches on center running perpendicular between trusses.

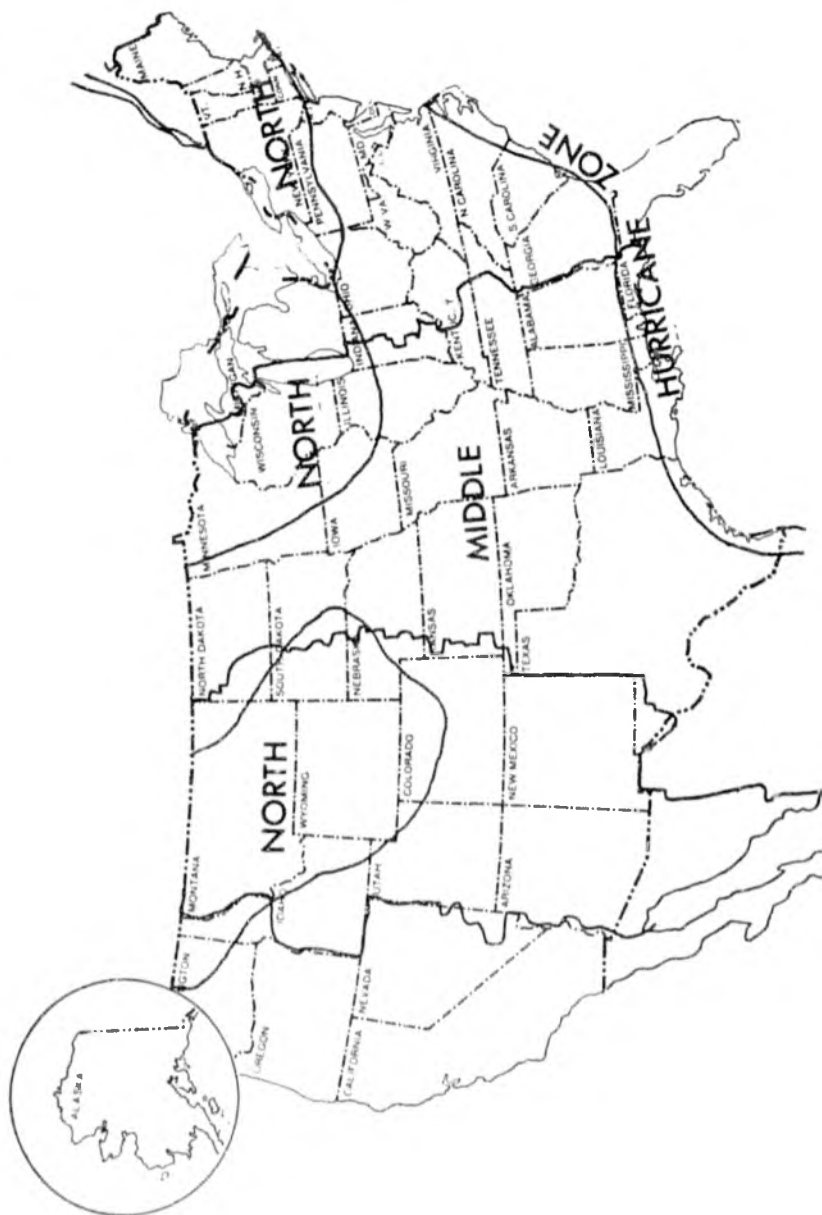
Rafter and truss deflections will be measured relative to a taut wire running over the supports and weighted at the end to insure constant tension. Deflections will be measured at the 2 quarter points and at midspan. Loading shall be applied to the top chord through a suitable hydraulic system, masonry units or weights to simulate a uniformly distributed load. Load units shall be separated so that arch action does not occur.

TEST PROCEDURE:

1. Noting the drawing, measure and record initial elevation of rafter or truss in test position at no load.
2. Apply load units to the sheathing to equal the full dead load of roof and ceiling. Measure and record the deflections.
3. Maintaining the dead load, add live load in approximate 10 lb./ft² increments. Measure the deflections after each 10 lb./ft² increment. Apply incremental loads at a uniform rate such that approximately $\frac{1}{2}$ hour is required to establish the total design load condition. Measure and record the deflections. The maximum deflection due to design live load (deflection measured in step 3 minus step 2) shall not exceed $L/180$, where L is the clear span measured in same units.
4. Continue to load rafter or truss to dead load plus 1.75 times the design live load. Maintain this loading for 12 hours and inspect truss for failure.
5. Remove superimposed live load and truss shall recover to at least the $L/180$ position within another 12 hours.



Appendix III



Part II

Plumbing Systems

1. Introduction

1.1 Those members of the engineering profession and others associated with the design, manufacturing, installation, and inspection of mobile home plumbing systems have been aware of the need for uniform technical standards leading to the safe and sanitary use of this special type of equipment. They have also recognized that because of unique conditions of transport and use, existing plumbing standards for permanent buildings are not completely applicable to mobile homes. It is with these factors in mind that Part II of this standard has been developed.

1.2 Much of the material in Part II has been taken from, or is based on, the National Plumbing Code, Uniform Plumbing Code, and other nationally recognized standards for plumbing materials, fixtures, fittings, and equipment.

2. Scope

2.1 Part II of this standard covers the plumbing materials, fixtures, fittings, and equipment installed within or on mobile homes.

2.2 This standard is not intended as a design specification or an instruction manual for untrained persons.

2.3 Wherever the American Standard National Plumbing Code, A40.8-1955, Uniform Plumbing Code, and other nationally recognized standards for plumbing materials, fixtures, fittings and equipment and Part II of this standard differ, the requirements of the latter shall apply.

2.4 The provisions of this Standard are not intended to prevent the use of any material, appliance, installation, device, arrangement, or method of construction not specifically prescribed herein, provided any such alternative has been approved or listed. An enforcement agency may approve any such alternative if it finds the proposed design is satisfactory for the purpose intended, and if the material, appliance, installation, device, arrangement, and method or work offered is, for the purpose intended, at least the equivalent performance of that prescribed in this standard considering quality, strength, effectiveness, durability, safety, and protection of life and health. An enforcement authority shall re-

quire that satisfactory evidence or proof be submitted to substantiate any claims that may be made regarding the use of any such alternative.

3. Basic Principles

The principles of this standard are enunciated as basic goals in environmental sanitation, worthy of accomplishment through properly designed, acceptably installed, and adequately maintained plumbing systems. The results desired and necessary to protect the health of the public are the same everywhere. Furthermore, as unforeseen situations arise that are not covered in the body of the standard, the principles may serve to define the intent.

Principle No. 1. Plumbing fixtures, devices, and appurtenances shall be supplied with water in sufficient volume and at pressures adequate to enable them to function satisfactorily and without undue noise under all normal conditions of use.

Principle No. 2. Plumbing shall be designed and adjusted to use the minimum quantity of water consistent with proper performance and cleaning.

Principle No. 3. Devices for heating and storing water shall be so designed and installed as to prevent dangers from contamination and explosion through overheating.

Principle No. 4. Plumbing fixtures shall be made of smooth non-absorbent material, shall be free from concealed fouling surfaces, and shall be located in ventilated enclosures.

Principle No. 5. The piping of the plumbing system shall be of durable material, free from defective workmanship, and so designed and constructed as to give satisfactory service for its reasonable life expectancy.

Principle No. 6. Each fixture directly connected to the drainage system, except for mechanically sealed water closets or recirculating chemical toilets, shall be installed with a water seal trap.

Principle No. 7. The drainage system shall be designed to provide an adequate circulation of air in all piping with no danger of siphonage, aspiration, or forcing of trap seals under conditions of ordinary use.

Principle No. 8. The plumbing system shall be subjected to tests that will effectively disclose all leaks and defects in the work, which must then be repaired.

Principle No. 9. No water closet shall be located in a room or compartment that is not properly lighted and ventilated.

Principle No. 10. All plumbing fixtures shall be so installed with regard to spacing as to be reasonably accessible for their intended use.

4. Definitions

Administrative Authority. The administrative authority is the individual official, board, department, or agency established and authorized by a state, county, city, or other political subdivision created by law to administer and enforce the provisions of this Part as adopted or amended.

Air Gap (Water Distribution System). The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, water supplied appliance, or other device and the flood level of the receptacle.

Approved. "Approved" means acceptable to the authority having jurisdiction.

Authority having jurisdiction. The "authority having jurisdiction" is the organization, office, or individual responsible for "approving" equipment, an installation, or a procedure.

Backflow. The flow of water or other liquids, mixtures, or substances into the distributing pipes of a potable supply of water from any source or sources other than its intended sources. Back-siphonage is one type of backflow.

Backflow Connection. Any arrangement whereby backflow can occur.

Backflow Preventer. A device or means to prevent backflow.

Branch. Any part of the piping system other than a riser, main or stack.

Branch Vent. A vent connecting one or more individual vents with a vent stack or stack vent.

Center. The midpoint between the right and left side of the mobile home.

Combination Compartment. A shower stall or shower recess that provides for or includes the installation of a water closet and is of such size and proportions that it may not be occupied by more than one person.

Common Vent. A vent connecting at the junction of fixture drains and serving as a vent for more than one fixture.

Continuous Vent. A vertical vent that is a continuation of the drain to which it connects.

Continuous Waste. A drain from two or more fixtures connected to a single trap.

Cross Connection. Any physical connection or arrangement between two otherwise separate systems or sources, one of which contains potable water and the other either water, steam, gas or chemical of unknown or questionable safety whereby there may be a flow from one system or source to the other, the direction of flow depending on the pressure differential between the two systems.

Developed Length. The developed length of a pipe is the length measured along the centerline of the pipe and fittings.

Diameter. The diameter is the nominal diameter designated commercially.

Drain. A drain is a pipe that carries waste, water, or water-borne wastes in a drainage system.

Drain Hose. (See Sewer Connector).

Drain Outlet. The lowest end of the main drain to which the terminal end of the sewer connector is attached.

Drainage System. All the piping within or attached to the structure that conveys sewage or other liquid wastes to the drain outlet but does not include the sewer connector.

Fixture Drain. The drain from the trap of a fixture to the junction of that drain with any other drain pipe.

Fixture Supply. The water supply pipe connecting a fixture to a branch water supply pipe or directly to a main water supply pipe.

Flood-Level. The flood-level is the level in the receptacle over which water would overflow to the outside of the receptacle.

Flooded. The condition which results when the liquid in a container or receptacle rises to the flood-level.

Flush Tank. A water tank that contains sufficient water to adequately flush a water closet.

Flush Valve. A device located at the bottom of a tank for flushing water closets.

Flushometer Valve. A device which discharges a predetermined quantity of water to fixtures for flushing purposes and is closed by direct water pressure.

Grade. (See Pitch)

Horizontal Branch Drain. A drain branch pipe extending laterally from a soil or waste stack or building drain with or without vertical sections or branches, which receives the discharge from one or more fixture drains and conducts it to the soil or waste stack or to the building drain.

Horizontal Pipe. Any pipe or fitting which makes an angle of no more than 45 degrees with the horizontal.

Individual Vent. A pipe installed to vent a fixture drain. It connects with the vent system above the fixture served or terminates outside the building into the open air.

Inlet Coupling. Inlet coupling is the terminal end of the water system to which the water service connection is attached. It may be a swivel fitting or threaded pipe end.

Labeled. Equipment bearing an inspection label of a nationally recognized testing agency (see **Listed**).

Length. Length of a mobile home is the distance measured from the tip of the hitch to the part farthest to the rear.

Liquid Waste. The discharge from any fixture, appliance, area or appurtenance, which does not contain fecal matter or urine.

Listed. Refers to plumbing materials, devices, fixtures, fittings, equipment, appliances, and accessories that are shown in a list published by a recognized agency, maintaining an adequate periodic inspection of current production of listed models, and whose listing states either that the material, device, fixture, fitting, equipment, appliance, or accessory complies with nationally recognized health and safety requirements or has been tested and found safe for use in a specified manner.

Main. The principal pipe artery to which branches may be connected.

Main Drain. The principal artery of the drainage system to which drainage may be connected.

Main Vent. The principal artery of the venting system to which vent branches may be connected.

Mobile Home. A vehicular, portable structure built on a chassis and designed to be used without a permanent foundation* as a dwelling when connected to indicated utilities.

Offset. A combination of pipe and/or fittings that brings one section of the pipe out of line but into a line parallel with the other section.

Pitch. The fall (slope) of a pipe in reference to a horizontal plane expressed in inches per foot length.

Plumbing Fixtures. Plumbing fixtures are approved-type installed receptacles, devices, or appliances which (1) are supplied with water or (2) receive liquid or liquid-borne wastes for discharge into the drainage system.

NOTE: For the purpose of this standard, water closet refers to tank-bowl combination, mechanical seal, grinder, recirculating chemical, and flushometer type toilets.

Plumbing System. Includes the water supply and distribution pipes; plumbing fixtures and traps; soil, waste, and vent pipes; and water-treating or water-using equipment.

Relief Vent. An auxiliary vent which permits additional circulation of air in or between drainage and vent systems.

Sewage. Any liquid waste containing animal or vegetable matter in suspension or solution, and may include liquids containing chemicals in solution.

Sewer Connector. Consists of all pipes, fittings, and appurtenances from the drain outlet of the mobile home to the inlet of the corresponding sewer riser pipe of the sewerage system serving the mobile home.

Siphonage is the loss of water seal from fixture traps resulting from partial vacuum in the drainage system and may be of either of the following two types, or a combination of the two:

a. Self-siphonage resulting from vacuum in a fixture drain generated solely by the discharge of the fixture served by that drain, or,

b. Induced siphonage resulting from vacuum in the drainage system generated by the discharge of one or more fixtures other than the one under observation.

*The phrase "without a permanent foundation" indicates that the support system is constructed with the intent that the mobile home placed thereon will be moved from time to time at the convenience of the owner.

Standard. The word "standard" or "this standard" when used alone shall mean these requirements and subsequent amendments which the administrative authority may adopt.

Trap. A fitting or device which, when properly vented, provides a liquid seal to prevent the emission of sewer gas without materially affecting the flow of sewage or waste water through it.

Trap Arm. See **Fixture Drain**.

Trap Seal Depth. The vertical distance between the crown weir and the top of the dip of the trap.

Vacuum Breaker. See **Backflow Preventer**.

Vent Stack. A vertical vent pipe installed to provide circulation of air to and from the drainage system and which extends through one or more stories.

Vent System. That part of a piping installation which provides circulation of air within a drainage system.

Vertical Pipe. Any pipe or fitting which makes an angle of 45 degrees or less with the vertical.

Waste Pipe. A pipe receiving discharge from fixtures and conveying it to the main drain or soil pipe.

Waste Holding Tank. An enclosed tank for the temporary retention of water-borne waste.

Water Connector. Consists of all pipes, fittings, and appurtenances from the water riser pipe to the water inlet coupling of the distribution system within the mobile home.

Water Distribution System. All of the water piping within the mobile home.

Water Storage Tank. A tank installed in a mobile home for the purpose of storing potable water.

Wet Vent. A vent which receives the discharge of wastes other than from water closets.

Wet Vented Drainage System. A specially designed system of drain piping that also vents one or more plumbing fixtures by means of a common waste and vent pipe.

5. General Requirements

5.1 Minimum Requirements. Plumbing systems installed in a mobile home shall conform, at least, with the provisions of this standard. Requirements for any size, weight, or quality of material modified by the terms "minimum," "not less than," "at least," and similar expressions are "*minimum standards.*"

5.1.1 Connections to Drainage System. All plumbing, fixtures, drains, appurtenances, and appliances designed or used to receive or discharge liquid waste or sewage shall be connected to the mobile home drainage system in a manner provided by this standard.

5.1.2 Workmanship. All design, construction, and workmanship shall be in conformance with accepted engineering practices and shall be of such character as to secure the results sought to be obtained by this standard.

5.1.3 Components. Plumbing materials, devices, fixtures, fittings, equipment, appliances, and accessories intended for use in or attached to a mobile home shall be listed by a recognized agency, or be specifically approved by the administrative authority enforcing this Standard when listing by a recognized agency is not available or cannot be legally recognized.

5.1.4. Prohibited Fittings and Practices

5.1.4.1 No drainage or vent piping shall be drilled and tapped for the purpose of making connections.

5.1.4.2 Except as provided, no vent pipe shall be used as a waste or drain pipe.

5.1.4.3 No fitting, connection, device, or method of installation that obstructs or retards the flow of water, waste, sewage, or air in the drainage or venting systems in an amount greater than the normal frictional resistance to flow shall be used unless it is indicated as acceptable in this standard or is approved as having a desirable and acceptable function and is of ultimate benefit to the proper and continued functioning of the plumbing system.

5.1.4.4 Cracks, holes, or other imperfections in materials shall not be concealed by welding, brazing, or soldering or by paint, wax, tar, or other leak-sealing or repairing agents.

5.1.4.5 Piping, fixtures or equipment shall be located so as not to interfere with the normal use or with the normal operation and use of windows, doors or other required facilities.

5.1.4.6 Galvanized pipe shall not be bent or welded.

5.1.5 **Alignment of Fittings.** All valves, pipes, and fittings shall be installed in correct relationship to the direction of flow.

5.2 Protective Requirements

5.2.1 **Cutting Structural Members.** No structural member shall be unnecessarily or carelessly weakened by cutting or notching.

5.2.2 **Exposed Piping.** All piping, pipe threads, hangers, and supports exposed to the weather, water, mud, and road hazard, and subject to damage therefrom, shall be painted, coated, wrapped, or otherwise protected from deteriorating.

5.2.3 **Road Damage.** No pipe, supports, drain, outlet, or sewer connector shall extend or protrude in a manner where it will be subjected to damage during transit.

5.2.4 **Freezing.** All piping and fixtures subject to freezing temperatures shall be insulated or protected to prevent freezing, under normal occupancy.

5.2.5 **Vermin Proofing.** All exterior openings around piping shall be effectively closed to prevent the entrance of rodents.

6. Materials—Quality and Weight

6.1 **Minimum Standards.** Materials, fixtures, or devices used or entering into the construction of plumbing systems in any mobile home shall be free from defects and shall conform to approved or listed applicable standards.

6.2 **Applicable Standards.** Standards for plumbing system components are shown in Table II.

NOTE: All standards and specifications for materials are subject to change. Designations carrying indication of the year of issue may thus become obsolete. Table II gives the full designations of standards current at the time this standard was printed.

TABLE II
Standards for Plumbing System Components*

Materials	USASI	ASTM	FS	Other Standards
<i>Ferrous Pipe and Fittings</i>				
Cast-Iron Screwed Fittings	B16.4 -1963			
Malleable Iron Screwed Fittings	B16.3 -1963			
Cast-Iron (Screwed) Drainage Fittings				UPC-PS 5-66
Welded Wrought Iron Pipe	B36.2 -1966	A72 -1966		
Wrought-Steel and Wrought-Iron Pipe	B36.10 -1959			
Black and Zinc-Coated (Galvanized) Steel Pipe	B36.20 -1966	A120 -1966		
Welded and Seamless Steel Pipe	B36.1 -1966	A53 -1967		
Pipe Threads	B2.1 -1960			
<i>Nonferrous Pipe and Fittings</i>				
Seamless Copper Pipe, Standard Sizes	H26.1 -1963	B42 -1966		
Seamless Copper and Copper Alloy Pipe	H23.4 -1967	B251 -1967		
Seamless Copper Water Tube	H23.1 -1967	B88 -1966		
Copper Drainage Tube (DWV)	H23.6 -1967	B306 -1966		
Wrought Copper & Bronze Solder-Joint Fittings	B16.22 -1963			
Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings				UPC-PS 21-65
Cast Brass Solder-Joint Pressure Fittings	B16.18 -1967			
Cast - Bronze Solder - Joint Drainage Fittings	B16.23 -1960			
Brass Fittings for Flared Copper Tubes	B16.26 -1967			
Seamless Red Brass Pipe	H27.1 -1963	B43 -1966		
Cast Bronze Screwed Fittings, 125 and 250 Lb.	B16.15 -1964			

*Dates shown are latest editions at time of printing including the dates of any addenda issued. Other standards on solvent cements, thermoplastic pipes and fittings are also available from ASTM.

Materials	USASI	ASTM	FS	Other Standards
<i>Plastic Pipe and Fittings</i>				
ABS Plastic Drain, Waste, and Vent Pipe and Fittings		D1527-67	L-P-00322	CS270-65 NSF-14 1965
PVC Plastic Drain, Waste and Vent Pipe and Fittings		D1785-67	L-P-00320	CS272-65 NSF-14 1965
Plastic Sewer, Drain Pipe, Fittings, Styrene Rubber (SRP)			WW-P-00380a	NSF-14 1965
ABS Plastic Pipe (SDR-PR and Class T)		D2282-66		CS254-63 NSF-14 1965
Polyethylene (PE) Plastic Pipe (SDR-PR)		D2239-67		CS255-63 NSF-14 1965
Polyvinyl Chloride (PVC) Plastic Pipe (SDR-PR and Class T)		D2241-65		CS256-63 NSF-14 1965
<i>Miscellaneous</i>				
Pipe Nipples, Threaded			WW-N-351a'60	
Backflow Preventers in Plumbing Systems	A40.6-1943			
Air Gaps in Plumbing Systems	A40.4-1942			
Valve, Bronze, Gate 125-150 Lb.			WW-V-54b.'62	
Valve, Cast-Iron Gate, 125 and 250 Lb.			WW-V-58(1)'46	
Plumbing — Fixture-Setting Compound			HH-C-536-a'54	
Cast Brass and Tubing P-Traps				UPC-PS 2-66
Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems	Z21.22-1965			
Solvent Cement for ABS Plastic Pipe and Fittings		D2235-63T		
Diversion Tees and Twin Waste Elbow				UPC-PS 9-66
Flexible Copper Water Connectors				UPC-PS 14-66

Materials	USASI	ASTM	FS	Other Standards
Dishwasher Drain Airgaps				UPC-PS 23-66-T
Backflow Preventers and Relief Valves				TSC 8-66-T
Flexible Metal Mobile Home Gas Connectors				TSC 9-63
Drain Connectors for Independent Mobile Homes				TSC 10-64
Thermoplastic Joining Material				NSF 14
<i>Plumbing Fixtures</i>				
Plumbing Fixtures for Land Use			WW-P 541b(4)'62	
Vitreous China Plumbing Fixtures				CS-20 -63
Enameled Cast-Iron Plumbing Fixtures				CS-77 -62
Porcelain - Enameled (Glass-Lined) Hot Water Tanks				CS-115 -60
Formed Metal Porcelain-Enameled Sanitaryware				CS-144 -47
Gel-Coated Glass-Fiber Reinforced Polyester Bathtubs	Z124.1 -1967			
Gel-Coated Glass-Fiber Reinforced Polyester Resin Shower Receptor, Shower Stalls	Z124.2 -1967			
Stainless Steel Plumbing Fixtures — Residential Use				CS-243 -62
Mechanical Seal Water Closet				TSC-1 -1959
Waste Holding Tanks				TSC-2 -1960a
Water Storage Tanks				TSC-4 -1960
Drains for Prefabricated and Precast Showers				UPC-PS 4-66
Shower Drainage Fittings				UPC-PS 5-66
Cultured Marble Lavatory				UPC-PS 18-65
Prefabricated Shower Receptors, Prefabricated Stall Showers				TSC 11-64
Self-contained, Electrically Operated Recirculating, Chemically Controlled Toilet				TSC 12-65-T

Notes to Table II

Abbreviations used in Table II refer to standards as identified below and elsewhere in this standard.

AGA: Standards and Tentative Standards published by the *American Gas Association*, 1032 East 62nd Street, Cleveland, Ohio 44103.

ASA: *American Standards Association* — now *United States of America Standards Institute* (USASI), to 10 East 40th Street, New York, N.Y. 10016.

ASME: Standards and Tentative Standards published by the *American Society of Mechanical Engineers*, 345 East 47th Street, New York, N. Y. 10017.

ASTM: Standards and Tentative Standards published by the *American Society for Testing and Materials*, 1916 Race Street, Philadelphia, Pa. 19103.

AWWA: Standards and Tentative Standards published by the *American Water Works Association*, 2 Park Ave., New York, N. Y. 10016.

CS: Commercial Standards representing recorded voluntary recommendations of the trade, issued by the *United States Department of Commerce* and obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402.

FS: Federal Specifications published by the *Federal Specifications Board* and obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402.

IAPMO: Standards and Tentative Standards designated above as UPC-PS (Uniform Plumbing Code — Product Standard) and TSC (Trailer Standard) available from the *International Association of Plumbing and Mechanical Officials*, 5032 Alhambra Ave., Los Angeles, Calif. 90032 (formerly *Western Plumbing Officials Association* (WPOA)).

MSS: Standards published by the *Manufacturers Standardization Society of the Valve and Fittings Industry*, 420 Lexington Avenue, New York, N. Y. 10017.

NSF: Standards and Tentative Standards published by the *National Sanitation Foundation*, Ann Arbor, Michigan 48106.

SPR: Simplified Practice Recommendations representing recorded recommendations of the trade and issued by the *United States Department of Commerce*, Washington, D. C. 20234.

TSC: See IAPMO.

UL: Standards and Tentative Standards published by the *Underwriters' Laboratories, Inc.*, 207 East Ohio Street, Chicago, Illinois 60611.

UPC-PS: See IAPMO.

USAS: *A United States of America Standard* (usually followed by a number and date) as available from or through the United States of America Standards Institute (USASI).

USASI: United States of America Standards Institute, 10 East 40th Street, New York, N. Y. 10016.

6.3 Specific Usage. Each of the following sections indicates specifically the type of material presently permitted for use in the various parts of the plumbing system.

7. Joints and Connections

7.1 Tightness. Joints and connections in the plumbing system shall be gastight and watertight for the pressures required under testing procedures.

7.1.1 Assembling of Pipe. All joints and connections shall be correctly assembled for tightness. Pipe threads shall be fully engaged with the threads of the fitting. Plastic pipe and copper tubing shall be inserted to the full depth of the solder cup or welding sockets of each fitting. Pipe threads and slip joints shall not be wrapped with string, paper, putty, or similar fillers.

7.1.2 Threaded Joints. Threads for screw pipe and fittings shall conform to the approved or listed standard. All burrs shall be removed. Pipe ends shall be reamed out to size of bore, and all chips shall be removed. Pipe joint cement or thread lubricant shall be of approved type and applied to male threads only.

7.1.3 Solder Joints. Solder joints for tubing shall be made with approved or listed sweat solder type fittings. Surfaces to be soldered shall be cleaned bright. The joints shall be properly fluxed with noncorrosive paste type flux and made with approved or listed 50-50 solder or an approved solder having a higher melting temperature.

7.1.4 Plastic Pipe and Fittings. Plastic pipe and fittings shall be joined by installation methods recommended by the manufacturer or by a recognized, approved, or listed standard. They shall not affect the potability of the water.

7.1.5 Union Joints. Metal unions shall have metal-to-metal ground seats.

7.1.6 Flared Joints. Flared joints for soft-copper water tubing shall be made with listed fittings. The tubing shall be expanded with a proper flaring tool.

8. Traps and Cleanouts

8.1 Traps

8.1.1 Traps Required. Each plumbing fixture shall be separately trapped by an approved water seal "P" trap. Water closets,

except mechanical sealed water closets and circulating chemical toilets shall have integral traps.

8.1.2 Dual Fixtures. A two-compartment sink or two single sinks or two lavatories set immediately adjacent to each other in the same room with waste outlets not more than 30 inches apart may be connected to one trap and may be considered as one fixture for the purpose of drainage and vent requirements.

8.1.3 Prohibited Traps. No form of trap which depends for its seal upon concealed interior partitions shall be used. Full "S" traps, bell traps, drum traps, and crown-vented traps are prohibited, and no fixture shall be double-trapped.

8.1.4 Material and Design. Each trap shall be self-cleaning with a smooth and uniform interior waterway. Traps shall be manufactured of cast iron, cast brass, or drawn brass tubing of not less than No. 20 Brown and Sharpe gage, or approved or listed plastic, or other approved or listed material. Union joints for a trap shall be beaded to provide a shoulder for the union nut. Each trap shall have the manufacturer's name stamped or cast in the metal of the trap, and each tubing shall show the gage of the tubing.

8.1.5 Trap Seal. Each trap shall have a water seal of not less than 2 inches and not more than 4 inches and shall be set true to its seal.

8.1.6 Size. Traps shall be not less than 1½ inches in diameter, except that a 1¼-inch diameter trap may be used when connected to a single fixture having no more than a 2-inch drain opening. No trap shall be larger than the waste pipe to which it is connected.

8.1.7 Location. Each trap shall be located as close to its vent and to its fixture outlet as structural conditions will permit.

8.1.8 Distance from Trap to Vent. The distance between a trap and its vent or vented waste line shall be in accordance with Table 3 (see 13.3.5 of this Part).

8.1.9 Length of Tailpiece. The vertical distance from a trap to the fixture outlet shall not exceed 24 inches.

8.1.10 Installation

8.1.10.1 Grade of Fixture Drain. The fixture drain piping between a trap and the fixture tee or the vented waste line shall be graded ¼ inch per foot towards the vent and in no event shall have a slope greater than its diameter. Except for water closet

drains, the vent opening at fixture tees shall not be below the invert of the trap outlet.

8.1.10.2 Fixture Drain Offset. The fixture drain piping between the trap and vent may change direction or be offset horizontally with the equivalent of no more than 180 degrees.

8.1.10.3 Concealed Traps. Traps with slip joint connections shall be readily accessible for repair and inspection.

8.1.10.4 Protection. Traps shall be adequately protected from damage during transit and from freezing, where necessary, during normal occupancy.

8.2 Cleanout Openings

8.2.1 Location of Cleanout Fittings

8.2.1.1 Cleanouts shall be installed if the drainage system cannot be cleaned through fixtures, drains, or vents. Cleanouts shall also be provided when fittings of more than 45 degrees are used to affect an offset except where long turn ells are used which provide sufficient "sweep" for cleaning.

8.2.1.2 A full size cleanout shall be installed at the upper end of any section of drain piping which does not have the required minimum slope of $\frac{1}{4}$ inch per foot grade.

8.2.1.3 A cleaning tool shall not be required to pass through more than 360 degrees of fittings to reach any part of the drainage system.

8.2.2. Access to Cleanouts. Cleanouts shall be accessible through an unobstructed minimum clearance of 12 inches directly in front of the opening. Each cleanout fitting shall open in a direction opposite to the flow or at right angles to the pipe. Concealed cleanouts that are not provided with access covers shall be extended to a point above the floor or outside of the mobile home, with pipe and fittings installed, as required, for drainage piping.

8.2.3 Material. Plugs and caps shall be brass or approved or listed plastic, with screw pipe threads.

8.2.4 Design. Cleanout plugs shall have raised heads except that plugs at floor level shall have counter-sunk slots.

9. Plumbing Fixtures

9.1 General Requirements

9.1.1 Quality of Fixtures. Plumbing fixtures shall have smooth impervious finishes, be free from defects and concealed fouling surfaces, be capable of resisting road shock and vibration, and shall conform in quality and design to approved or listed standards.

9.1.2 Strainers. The waste outlet of all plumbing fixtures, other than water closets, shall be covered with substantial metal strainers that will provide an adequate unobstructed waterway.

9.1.3 Fixture Connections. Fixture tailpieces and continuous wastes in exposed or accessible locations shall be not less than No. 20 Brown and Sharpe gage seamless drawn-brass tubing or other approved materials. Inaccessible fixture connections shall be constructed according to the requirements for drainage piping. Each fixture tailpiece, continuous waste, or waste and overflow shall be not less than 1½ inches for sinks of two or more compartments, dishwashers, clothes washing machines, laundry tubs, bath tubs, and not less than 1¼ inches for lavatories and single compartment sinks having a 2 inch maximum drain opening.

9.1.4 Concealed Connections. Concealed slip joint connections shall be provided with adequately sized unobstructed access panels and shall be readily accessible for inspection and repair.

9.1.5 Directional Fitting. An approved or listed "Y" or other directional-type branch fitting shall be installed in every tailpiece or continuous waste that receives the discharge from food waste disposal units, dishwashing, or other force-discharge fixture or appliance. Dishwasher drains shall not be connected to a sink tailpiece, continuous waste, or trap on the discharge side of a food-waste disposal unit.

9.2 Fixtures

9.2.1. Water Closet

9.2.1.1 Each water closet shall be designed and manufactured according to approved or listed standards and shall be equipped with a water flushing device capable of adequately flushing and cleaning the bowl at each operation of the flushing mechanism.

9.2.1.2 Water closet flushing devices shall be designed to replace the water seal in the bowl after each operation. Flush valves,

flushometer valves, and ball cocks shall operate automatically to shut off at the end of each flush or when the tank is filled to operating capacity.

9.2.1.3 Flush tanks shall be fitted with an overflow pipe large enough to prevent flooding at the maximum flow rate of the ball cock. Overflow pipes shall discharge into the water closet, through the tank.

9.2.1.4 Water closets that have fouling surfaces that are not thoroughly washed at each discharge shall be prohibited. Any water closet that might permit the contents of the bowl to be siphoned back into the water system shall be prohibited.

9.2.2 Shower Stalls

9.2.2.1 Each shower stall receptor shall be provided with an approved-type watertight receptor, with sides and back extending 1 inch above the finished dam or threshold. In no case shall the depth of a shower receptor be less than 2 inches or more than 9 inches measured from the top of the finished threshold to the top of the drain. The wall area in shower compartments shall be constructed of smooth, noncorrosive, and nonabsorbent waterproof materials to a height not less than 6 feet above the floor level. Such walls shall form a watertight joint with each other and with the receptor or shower floor. The floor shall slope uniformly to the drain at not less than one-fourth nor more than one-half inch per foot.

9.2.2.2 The joint around the drain connection and around the water closet outlets in combination compartments shall be made watertight by a flange, clamping ring, or other approved or listed means.

9.2.2.3 Hinged shower doors shall open outward.

9.2.2.4 Prefabricated shower stalls shall be approved or listed and shall comply with all the requirements relating to plumbing fixtures and shower stalls.

9.2.3. Fixed Shower and Tub Enclosures. Fixed shower doors and tub and shower enclosures shall be constructed of materials such as wired-glass, laminated safety glass, fiberglass, reinforced plastics, or other listed materials.

9.2.4 Dishwashing Machines

9.2.4.1 No dishwashing machine shall be directly connected to any waste piping, but shall discharge its waste through a fixed

air gap installed above the machine. The drain connection from the air gap may connect to an individual trap, to a directional fitting installed in the sink tailpiece, or to the opening provided on the inlet side of a food waste disposal unit.

9.2.4.2 Drain from a dishwashing machine shall not be connected to a continuous waste line or trap on the discharge side of a food waste disposal unit.

9.2.5 Clothes Washing Machines

9.2.5.1 Clothes washing machines shall drain either into a properly vented trap, into a laundry tub tailpiece with watertight connections, into an open standpipe receptor, or over the rim of a laundry tub.

9.2.5.2 Standpipes shall be 1½ inches, minimum, nominal iron pipe size, or 1½ inches outside diameter nominal brass tubing not less than No. 20 Brown and Sharpe gage. Receptors shall discharge into a vented trap or shall be connected to a laundry tub tailpiece by means of an approved or listed directional fitting. Each standpipe shall extend not less than 18 inches or more than 30 inches above its trap and shall terminate in an accessible location not less than 6 inches above the highest water level of the clothes washing machine.

9.2.5.3 No clothes washing machine drain shall be connected to the tailpiece, continuous waste, or trap of any sink or dishwashing machine.

9.3 Installation

9.3.1 Access. Each plumbing fixture shall be located and installed in a manner to provide easy access for cleaning and repair.

9.3.2 Alignment. Fixtures shall be set level and in true alignment with adjacent walls. Where practical, piping from fixtures shall extend to nearest wall.

9.3.3 Brackets. Wall-hung fixtures shall be rigidly attached to walls by metal brackets or supports without any strain being transmitted to the piping connections. Flush tanks shall be securely fastened to water closets or to the wall with adequate size bolts or screws of brass or other noncorrosive metal.

9.3.4 Floor Connection. Water closets shall be rigidly bolted to the closet flange, and when screw holds are provided the bowl shall also be solidly fastened to the floor. Bolts and screws shall be adequate in size and shall be made of solid brass or other

approved or listed noncorrosive metal. An approved or listed gasket or setting compound shall be used to form a watertight seal between the fixture and the drain connection. The exposed joint between the fixture and the floor shall be made watertight, and the floor under the water closet, and to at least 6 inches around the fixture, shall be made impervious to moisture.

10. Hangers and Supports

10.1 Strains and Stresses. Piping in a plumbing system shall be installed without undue strains and stresses, and provision shall be made for expansion, contraction, and structural settlement.

10.2 Piping Supports. Piping shall be secured at sufficiently close intervals to keep the pipe in alignment and carry the weight of the pipe and contents.

10.3 Hangers and Anchors

10.3.1 Hangers and anchors shall be of sufficient strength to support their proportional share of the pipe alignments and prevent rattling.

10.3.2 Piping shall be securely attached to the structure by proper hangers, clamps, or brackets which provide protection against motion, vibration, road shock, torque in the chassis, or other unusual conditions.

11. Water Distribution System

11.1 Water Supply

11.1.1 Potable Water. Water piping shall be sized to provide an adequate quantity of running water to each plumbing fixture at a flow rate sufficient to flush and keep the fixture in a clean and sanitary condition without any danger of backflow or siphonage.

11.1.2 Hot Water Supply. Each mobile home equipped with a kitchen sink, and bathtub and/or shower shall be provided with a hot water supply system including a water heater.

11.2 Water Outlets and Supply Connections

11.2.1 Water Connection. Each mobile home with a water distribution system shall be equipped with a 3/4-inch inlet coupling located within the rear third of the length of the mobile home. This connection shall be tagged or marked "Fresh Water Connection" or "Fresh Water Fill." A matching cap or plug shall be provided

to seal the water inlet when it is not in use and shall be attached with a substantial chain. A master cold water shutoff gate valve shall be installed on the main feeder line in an accessible area.

11.2.2 Prohibited Connections

11.2.2.1 The installation of water supply piping or fixture or appliance connections shall be made in manner to preclude the possibility of used, unclean, polluted, or contaminated water, mixtures, or substances entering any part of the water supply system from any tank, receptacle, equipment, or plumbing fixture by reason of siphonage, suction, or any other cause, either during normal use and operation or when any such tank, receptacle, equipment, or plumbing fixture is flooded or subject to pressure in excess of the operating pressure in the water piping system.

11.2.2.2 No part of the water system shall be connected to any drainage or vent piping.

11.2.3 Rim outlets. The outlets of faucets, spouts, and similar devices shall be spaced at least 1 inch above the flood level of the fixture.

11.2.4 Appliance Connections. Water supplies connected to clothes washing or dishwashing machines shall be protected by an approved or listed fixed air gap provided within the appliance by the manufacturer.

11.2.5 Flushometer Valves or Manually Operated Flush Valves. An approved or listed vacuum breaker shall be installed and maintained in the water supply line on the discharge side of a water closet flushometer valve or manually operated flush valve. Vacuum breakers shall have a minimum clearance of 6 inches from the flood level of the fixture to the critical level mark unless otherwise permitted in their approval.

11.2.6 Flush Tanks. Water closet flush tanks shall be equipped with an approved anti-siphon ball cock which shall be installed and maintained with its outlet or critical level mark not less than 1 inch above the full opening of the overflow pipe.

11.2.7 Critical Level. The critical level, C-L or $\frac{C}{L}$ marking on a backflow prevention device or vacuum breaker is a point established by the testing laboratory (usually stamped on the device by the manufacturer) which determines the minimum elevation above the flood level rim of the fixture or receptacle served on which the device may be installed. When a backflow prevention

device does not bear a critical level marking, the bottom of the vacuum breaker, combination valve, or of any such approved or listed device shall constitute the critical level.

11.2.8 Backflow Preventer. When pressure- or gravity-type water supply tanks or reservoirs (except water heaters or flush tanks) for storing potable water are connected to the water distribution system of mobile homes, they shall have an approved or listed spring-loaded check valve or other approved or listed type backflow prevention device installed in the water-supply piping adjacent to the inlet coupling. An approved or listed pressure relief valve shall be required on the outlet side of the check valve.

11.3 Safety Devices

11.3.1 Relief Valves

11.3.1.1 All water heaters shall be installed with approved and listed fully-automatic valve or valves designed to provide temperature and pressure relief.

11.3.1.2 Any temperature relief valve or the combined pressure and temperature relief valve installed for this purpose shall have the temperature sensing element immersed in the hottest water within the upper 6 inches of the tank. It shall be set to start relieving at a pressure not exceeding the rated working pressure of the tank and at or below a water temperature of 210 degrees F.

11.3.1.3 All relief valves shall have connected a drainpipe not smaller than the relief valve drain connection pipe size. Where the relief valve is located within the mobile home, the drain line shall extend outside, with the end directed downward in a location where the outlet end will be protected from dirt, mud and freezing. No part of the drain line shall be trapped.

11.3.2 Water Supply Tanks and Heaters

11.3.2.1 Pressure and gravity cold water storage tanks shall be constructed of sound, nontoxic, durable materials, corrosion resistant, and shall impart no taste or odor to the potable water in the system. Each pressure tank shall be capable of withstanding 200 psi minimum test water pressure.

11.3.2.2 Each storage water heater shall be provided with a three-quarter ($\frac{3}{4}$)-inch pipe tapping for a combined pressure-temperature relief valve within the top 6 inches of the tank. The tapping shall be in a location which will permit easy access for installing, testing and maintenance of the valve.

11.4 Materials

11.4.1 Piping Material. Water pipe shall be of standard weight brass, galvanized wrought iron, galvanized steel, Type L copper tubing, approved or listed plastic, or other approved or listed material (see 11.4.2).

11.4.2 Plastic Piping. Mobile homes that have no provision for hot water piping or hot water faucets, or no space allotted for a water heater, may have cold water piping (only), and fittings may be constructed from approved or listed plastic.

11.4.3 Fittings. Appropriate fittings shall be used for all changes in direction or size and where pipes are joined. The material and design of fittings shall conform to the type of piping used.

11.4.3.1 Fittings for screw piping shall be standard weight galvanized iron for galvanized iron and steel pipe, and of brass for brass piping. They shall be installed where required for change in direction, reduction of size, or where pipes are joined together.

11.4.3.2 Fittings for copper tubing shall be cast brass or drawn copper sweat solder pattern or flare type.

11.4.3.3 Fittings for cold water, plastic water piping shall be of approved or listed brass or plastic.

11.4.4 Prohibited Material. Used piping materials shall not be permitted. Pipe dope, solder flux, oils, solvents, chemicals, or other substances that are toxic, corrosive, or otherwise detrimental to the water system shall not be used.

11.5 Installation of Piping

11.5.1 Minimum Requirement. All piping equipment, appurtenances, and devices shall be installed in workmanlike manner and shall conform with the provisions and intent of this standard.

11.5.2 Screw Pipe. Iron pipe-size brass or galvanized iron or steel pipe and fittings shall be joined with approved or listed standard pipe threads fully engaged in the fittings. Pipe ends shall be reamed to the full bore of the pipe. Pipe-joint compound shall be insoluble in water and shall be nontoxic.

11.5.3 Solder Fittings. Copper tubing shall be joined to sweat solder fittings by means of hot solder and a noncorrosive flux. The surfaces to be soldered shall be thoroughly cleaned. The use of self-cleaning fluxes shall not be permitted.

11.5.4 Flared Fittings. A flaring tool shall be used to shape the ends of flared tubing to match the flare of fittings.

11.5.5 Plastic Pipe and Fittings. Plastic pipe and fittings shall be joined by installation methods recommended by the manufacturer or by a listed standard.

11.6 Size of Water Supply Piping

11.6.1 Minimum Size. The size of water supply piping and branch lines shall not be less than sizes shown in Table 2.

TABLE 2

Minimum Size Tubing and Pipe for Water Distribution Systems

Number of Fixtures	Tubing		Pipe Iron Pipe Size (Inches)
	Inner Dia. (Inches)	Outer Dia. (Inches)	
1	$\frac{1}{4}$ *	$\frac{3}{8}$	$\frac{1}{2}$
2	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
3	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$
4	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$
5 or more	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$

*6 feet maximum length for $\frac{1}{4}$ inch id tubing.

Exceptions to Table: $\frac{3}{8}$ inch id nominal or $\frac{1}{2}$ inch od minimum size for clothes washing or dishwashing machines, unless larger size is recommended by the fixture manufacturer.

$\frac{1}{2}$ inch id nominal or $\frac{3}{8}$ inch od minimum size for flushometer or metering type valves unless otherwise specified in their listing.

No galvanized screw piping shall be less than $\frac{1}{2}$ inch iron pipe size.

11.6.2 Sizing Procedure. Both hot and cold water piping systems shall be computed by the following method:

11.6.2.1 Size of Branch. Start at the most remote outlet on any branch of the hot or cold water piping and progressively count towards the water service connection, computing the total number of fixtures supplied along each section of piping. Where branches are joined together, the number of fixtures on each branch shall be totalled so that no fixture is counted twice. Following down the left-hand column of Table 2 a corresponding number of fixtures will be found. The required pipe or tubing size is indicated in the other columns on the same line.

11.6.2.2 A water heater or food waste disposal unit shall not be counted as a water-using fixture when computing pipe sizes.

11.7 **Line Valves.** Valves, when installed in the water supply distribution system (except those immediately controlling one fixture supply) and when fully opened, shall have a cross-sectional area of the smallest orifice or opening, through which the water flows, at least equal to the cross-sectional area of the nominal size of the pipe in which the valve is installed.

12. Drainage Systems

12.1 Materials

12.1.1 **Pipe.** Drainage piping shall be standard weight steel, wrought iron, brass, copper tube DWV, approved or listed plastic, or other approved or listed material.

12.1.2 **Fittings.** Drainage fittings shall be recessed drainage pattern with smooth interior waterways of the same diameter as the piping and shall be of a material conforming to the type of piping used. Drainage fittings shall be designed to provide for a $\frac{1}{4}$ inch per foot grade in horizontal piping.

12.1.2.1 Fittings for screw pipe shall be cast iron, malleable iron, brass, or approved or listed plastic with approved or listed standard pipe threads.

12.1.2.2 Fittings for copper tubing shall be cast brass or drawn copper sweat solder.

12.1.2.3 Fittings for plastic piping shall be made to listed standards.

12.1.2.4 Brass adaptor fittings shall be used to join copper tubing to threaded pipe.

12.2 Drain Outlets

12.2.1 **Location of Drain.** Each mobile home shall have only one drain outlet which shall terminate in the rear third section on the left (road) side. This outlet shall be tagged or marked "Drain Outlet" or "Sewer Outlet."

12.2.2 **Exception.** A drain outlet may terminate horizontally when it is equipped with an acceptable fitting(s).

12.2.3 **Cap or Plug.** A cap or plug on the drain outlet shall be permanently attached to the structure by a chain or cable.

12.2.4 Clearance from Drain Outlet. The drainage outlet and couplers shall be provided with a minimum clearance of 3 inches in any direction from all parts of the structure or appurtenances and with not less than 18 inches unrestricted clearance directly in front of the drainage outlet.

12.2.5 Hose Couplers and Caps

12.2.5.1 Hose couplers for drain outlets shall be a quick disconnect type not requiring any special tools or knowledge to make the connection or remove the drain hose.

12.2.5.2 Hose couplers and drain hoses shall not be smaller than the piping to which they are connected and shall be equipped with a watertight cap or plug matching the drainage outlet or coupler. The cap or plug shall be permanently attached to the structure by means of a substantial chain.

12.2.5.3 Drain outlet or attached drain hoses for drain piping connected to a mobile home shall be 3 inches minimum inside diameter.

12.3 Fixture Connections. Drainage piping shall be provided with approved or listed inlet fittings for fixture connections, correctly located according to the size and type of fixture to be connected.

12.3.1 Water Closet Connection. The drain connection for each water closet shall be 3 inches minimum inside diameter and shall be fitted with an iron, brass, or listed plastic floor flange adaptor ring securely screwed, soldered or otherwise permanently attached to the drain piping, in an approved manner and securely fastened to the floor.

12.4 Size of Drainage Piping

12.4.1 Fixture Load. Drain pipe sizes shall be determined by the type of fixture and the total number connected to each drain.

12.4.1.1 A 1½-inch minimum diameter piping shall be required for one and not more than three individually vented fixtures.

12.4.1.2 A 2-inch minimum diameter piping shall be required for four or more fixtures individually vented.

12.4.1.3 A 3-inch minimum diameter piping shall be required for water closets.

12.5 Wet-Vented Drainage System. Plumbing fixture traps may connect into a wet-vented drainage system which shall be designed and installed to accommodate the passage of air and waste in the same pipe.

12.5.1 Horizontal Piping. All parts of a wet-vented drainage system, including the connected fixture drains, shall be horizontal except for wet-vented vertical risers which shall terminate with a 1½-inch minimum diameter continuous vent. Where required by structural design, wet-vented drain piping may be offset vertically when other vented fixture drains or relief vents are connected to the drain piping below the vertical offsets.

12.5.2 Size. A wet-vented drain pipe shall be 2 inches minimum diameter and at least one pipe size larger than the largest connected trap or fixture drain. Not more than three fixtures may connect to a 2-inch diameter wet-vented drain system.

12.5.3 Length of Fixture Drain. Fixture traps shall be located within the distance given in Table 3 (see 13.3.5 of this Part). Not more than one trap shall connect to a trap branch.

12.6 Offsets and Branch Fittings

12.6.1 Changes in Direction. Changes in direction of drainage piping shall be made by the appropriate use of approved or listed fittings, and shall be of the following angles: 11¼, 22½, 45 or 60 degrees; or other approved or listed fittings or combination of fittings with equivalent radius or sweep.

12.6.2 Horizontal to Vertical. Horizontal drainage lines, connecting with a vertical pipe shall enter through 45-degree "Y" branches, 60-degree "Y" branches, long-turn "TY" branches, sanitary "T" branches, or other approved or listed fittings or combination of fittings having equivalent sweep. No fitting having more than one branch at the same level shall be used, unless the fitting is constructed so that the discharge from any one branch cannot readily enter any other branch. However, a double sanitary "T" may be used when the drain line is increased not less than two pipe sizes.

12.6.3 Horizontal to Horizontal and Vertical to Horizontal. Horizontal drainage lines connecting with other horizontal drainage lines or vertical drainage lines connected with horizontal drainage lines shall enter through 45-degree "Y" branches, long-turn "TY" branches, or other approved or listed fittings or combination of fittings having equivalent sweep.

12.7 Slope of Horizontal Drainage Piping. Horizontal drainage piping shall be run in practical alignment and have a uniform slope of not less than $\frac{1}{4}$ inch per foot toward the mobile home drain outlet. Where it is impractical, due to the structural features or arrangement of any mobile home, to obtain a slope of $\frac{1}{4}$ inch per foot, the pipe or piping may have a slope of not less than $\frac{1}{8}$ inch per foot, when a full size cleanout is installed at the upper end.

13. Vents and Venting

13.1 General. Each plumbing fixture trap shall be protected against siphonage and back pressure, and air circulation shall be ensured throughout all parts of the drainage system by means of vent pipes installed in accordance with the requirements of this section and as otherwise required by this standard.

13.2 Materials

13.2.1 Pipe. Vent piping shall be standard weight steel, wrought iron, brass, copper tube DWV, approved or listed plastic, or other approved or listed materials.

13.2.2 Fittings. Appropriate fittings shall be used for all changes in direction or size and where pipes are joined. The material and design of vent fittings shall conform to the type of piping used.

13.2.2.1 Fittings for screw pipe shall be cast iron, malleable iron, plastic, or brass, with approved or listed standard pipe threads.

13.2.2.2 Fittings for copper tubing shall be cast brass or drawn copper sweat solder pattern.

13.2.2.3 Fittings for plastic piping shall be made to recognized, approved, or listed standards.

13.2.2.4 Brass adaptor fittings shall be used to join copper tube to threaded pipe.

13.2.2.5 Listed rectangular cross section pipe may be used for vent piping *only* providing it has an open cross section at least equal to the circular vent pipe required. Listed transition fittings shall be used.

13.3 Size of Vent Piping

13.3.1 Main Vent. The drain piping for each water closet shall be vented by a $1\frac{1}{2}$ -inch minimum diameter vent or rectangular

vent of venting cross section equivalent to or greater than the venting cross section of a 1½-inch diameter vent, connected to the main drain by one of the following methods:

- (a) A 1½-inch diameter (min.) individual vent pipe or equivalent directly connected to the water closet drain and extended undiminished in size through the roof.
- (b) A 1½-inch diameter (min.) continuous vent or equivalent indirectly connected to the water closet drain piping through a 2-inch wet-vented drain that carries the waste of not more than one fixture, or not more than two fixtures when one is a combination compartment drain.
- (c) Two or more vented drains when at least one is wet-vented and each drain is separately connected to the main drain.

13.3.2 Individual Vents. A vent pipe equivalent in area to 1¼-inch tubing required for all individually vented fixtures with a 1½-inch or smaller trap. The main vent, water closet vent and relief vent, and the continuous vent of wet-vented systems shall have an area equivalent to 1½-inch tubing.

Exception: In the case of copper tube, 1¼ inch nominal size may be used for individual vents.

13.3.3 Common Vent. When two fixture traps located within the distance allowed from their vent have their trap arms connected separately at the same level into an approved double fitting, an individual vent pipe may serve as a common vent without any increase in size.

13.3.4 Intersecting Vents. Where two or more vent pipes are joined together, no increase in size shall be required; however, the largest vent pipe shall extend full size through the roof and shall have a minimum area equivalent to a 1½ inch IPS.

13.3.5 Distance of fixture trap from vent shall not exceed the values given in Table 3 (next page).

13.4 Grade and Connections

13.4.1 Horizontal Vents. Each vent shall extend vertically from its fixture "T" or point of connection with the waste piping to a point not less than 6 inches above the extreme flood level of the fixture it is venting before offsetting horizontally or being connected with any other vent pipe. Vents for horizontal drains shall connect above the centerline of the drain piping ahead (down-

TABLE 3
Distance of Fixture Trap from Vent

Size of Fixture Drain (Inches)	Distance Trap to Vent
1¼	4 feet 6 inches
1½	4 feet 6 inches
2	5 feet 0 inches
3	6 feet 0 inches

stream) of the trap. Where required by structural conditions, vent piping may offset below the rim of the fixture at the maximum angle or height possible.

13.4.2 Grade. Vents shall grade or drain back to the drainage system by gravity.

13.5 Vent Terminal

13.5.1 Roof Extension. Each vent pipe shall extend through its flashing and terminate vertically, undiminished in size, not less than 2 inches above the roof. Vent openings shall not be less than 3 feet, 0 inch away from any motor-driven air intake that opens into habitable areas.

13.5.2 Flashing. The opening around each vent pipe shall be made watertight by an adequate flashing or flashing material.

14. Test and Inspection

14.1 Water System. All water piping in the water distribution system shall be subjected to a pressure test before any portion is covered or concealed. The test shall be made by subjecting the system to air or water at 100 psi for 15 minutes without leakage or loss of pressure. An adequate and accurate pressure gage shall be used on all tests.

14.2 Drainage and Vent System and Plumbing Fixtures. The waste and vent system shall be tested by one of the following alternate methods for evidence or indication of leakage.

14.2.1 Water Test. Before plumbing fixtures are connected, all of the openings into the piping shall be plugged and the entire piping system subjected to a static water test for 15 minutes by filling it with water to the top of the highest vent opening. The system shall be watertight at all points.

14.2.2 Air Test. After all fixtures have been installed, the traps filled with water, and the remaining openings securely plugged, the entire system shall be subjected to a 2 inch (manometer) water column air pressure test. If the system loses pressure, leaks may be located with smoke pumped into the system, or with soap suds spread on the exterior of the piping (Bubble test).

14.2.3. Flood Level Test. The mobile home shall be in a level position; all fixtures shall be connected, and the entire system shall be filled with water to the rim of the water closet bowl. (Tub and shower drains should be plugged.) After all trapped air has been released, the test shall be sustained for not less than 15 minutes. The waste piping above the level of the water closet shall be tested and show no indication of leakage when the high fixtures are filled with water and emptied simultaneously to obtain the maximum possible flow in the drain piping.

14.2.4 Fixture Test. The plumbing fixtures and connections shall be subjected to a flow test by filling them with water and checking for leaks and retarded flow while they are being emptied.

14.3 Shower Stalls. Nonmetallic shower stall linings shall be tested for leaks prior to being covered by finish material. Each pan shall be filled with water to the top of the dam for not less than 15 minutes.

Part III

Heating Systems

1. Introduction

1.1 Those members of the engineering profession and others associated with the design, manufacturing, installation, and inspection of mobile home heating systems have been aware of the need for uniform technical standards leading to the safe use of this special type of equipment. They have also recognized that, because of unique conditions of transport and use, existing heating equipment standards for motor vehicles or for buildings are not completely applicable to mobile homes. It is with these factors in mind that Part III of this standard has been developed.

1.2 Much of the material in Part III has been taken from, or is based on, nationally recognized standards for heat producing appliances and fuel supply systems including those of the National Fire Protection Association.

2. Scope

2.1 This standard covers the heating systems and equipment installed within or on mobile homes.

2.2 This standard is not intended as a design specification or an instruction manual for untrained persons.

2.3 Wherever nationally recognized standards for heat producing appliances and fuel supply systems and Part III of this standard differ, the requirements of the latter shall apply.

2.4 The provisions of this standard are not intended to prevent the use of any material, appliance, installation, device, arrangement, or method of construction not specifically prescribed herein, provided any such alternative has been approved. An enforcement agency may approve any such alternative if it finds the proposed design is satisfactory for the purpose intended, and if the material, appliance, installation, device, arrangement, and method or work offered is, for the purpose intended, at least the equivalent in performance of that prescribed in this standard considering quality, strength, effectiveness, durability, safety, and protection of life and health. An enforcement authority shall require that satisfactory evidence or proof be submitted to substantiate any claims that may be made regarding the use of any such alternative.

3. Definitions

Accessible. When applied to a fixture, connection, appliance or equipment shall mean having access thereto, but which may require the removal of an access panel, door or similar obstruction.

Air Duct. Conduits or passageways for conveying air to or from heating, cooling, air conditioning or ventilation equipment, but not including the plenum.

Appliance Branch Piping. Any run of piping or tubing, and fittings, not a part of an appliance that is used to convey fuel from the main piping manifold to a heat-producing appliance.

Approved. The word "approved" as used in this standard means acceptable to the authority having jurisdiction.

Automatic Pump (Oil Lifter). A pump, not an integral part of the oil-burning appliance, that automatically pumps oil from the supply tank and delivers the oil by gravity under a constant head to an oil-burning appliance.

BTU. British Thermal Units. The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit.

BTUH. British thermal units per hour.

Burner. A device for the final conveyance of fuel or a mixture of fuel and air to the combustion zone.

Clearance. The distance between the appliance, chimney, vent, chimney or vent connector or plenum and the nearest surface.

Combustible Material. The term applies to materials adjacent to, or in contact with, heat producing appliances, chimney connectors and vent connectors, steam and hot water pipes, and warm air ducts. Such material is made of, or surfaced with, wood, compressed paper, plant fibers, or other material that will ignite and burn. These materials shall be considered as combustible even though flameproofed, fire-retardant treated, or plastered.

Connector-Gas Appliance. A connector used to convey fuel gas, three feet or less in length (six feet or less for ranges) between a gas outlet and gas appliance in the same room with the outlet.

Fuel Gas Piping System. The arrangement of piping, tubing fittings, connectors, valves and devices designed and intended to supply or control the flow of fuel gas to the appliance(s).

Fuel Oil Piping System. The arrangement of piping, tubing, fittings, connectors, valves and devices designed and intended to

supply or control the flow of fuel oil to the appliance(s).

Gas Supply Connection. The terminal end or connection to which a gas supply connector is attached.

Gas Supply Connector. Tubing or piping connecting the mobile home to the gas supply source.

Heat Producing Appliance. All heating and cooking appliances and all fuel burning appliances.

Heating Appliance. An appliance for comfort heating of a mobile home or for water heating.

Illuminating Appliance—Gas Fired. An appliance designed for illumination and intended for either outdoor or indoor installation and attached to a fuel gas piping system.

Liquefied Petroleum Gases. The terms "Liquefied petroleum gases," "LPG" and "LP-Gas" as used in this standard shall mean and include any material which is composed predominantly of any of the following hydrocarbons, or mixtures of them: propane, propylene, butanes (normal butane or isobutane), and butylenes.

Listed. Equipment or materials included in a list published by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

Main Gas Piping Manifold. Gas piping which conveys gas from the gas supply connection to the appliance branch piping.

Mobile Home. A vehicular, portable structure built on a chassis and designed to be used without a permanent foundation* as a dwelling when connected to indicated utilities.

Readily Accessible. Having direct access without the necessity of removing any panel, door, or similar obstruction.

Roof Jack. That portion of a mobile home heater flue or vent assembly, including the cap, insulating means, flashing, and ceiling plate, located in and above the roof of a mobile home.

Water Heater. An appliance for supplying hot water for domestic or commercial purposes other than for space heating.

*The phrase "without a permanent foundation" indicates that the support system is constructed with the intent that the mobile home placed thereon will be moved from time to time at the convenience of the owner.

4. Fuel Supply Systems

4.1 LP-Gas Containers

4.1.1 Maximum Capacity. No more than two containers having an individual water capacity of not more than 105 pounds (approximately 45 pounds LP-Gas capacity), shall be installed on or in a compartment of any mobile home.

4.1.2 Construction of Containers. Containers shall be constructed and marked in accordance with the specifications for LP-Gas containers of the U.S. Department of Transportation (DOT) or the Rules for Construction of Unfired Pressure Vessels, Section VIII, ASME Boiler and Pressure Vessel Code. ASME Containers constructed after December 31, 1967 shall be Container Type 250.

4.1.2.1 Container supply systems shall be arranged for vapor withdrawal only.

4.1.3 Location of Containers and Systems

4.1.3.1 No LP-Gas container shall be installed nor provisions made for installing or storing, even temporarily, inside any mobile home except for listed, completely self-contained hand torches, lanterns, or similar equipment with containers having a maximum water capacity of not more than 2½ pounds (approximately one pound LP-Gas capacity).

4.1.3.2 Containers, control valves, and regulating equipment shall be mounted on the chassis of the mobile home as close to the hitch as possible, or shall be installed in a compartment that is vaportight to the inside of the mobile home and accessible only from the outside. The compartment shall be ventilated at top and bottom to facilitate diffusion of vapors. The compartment shall be ventilated with two vents having an aggregate area of not less than two percent of the floor area of the compartment and shall open unrestricted to the outside atmosphere. The required vents shall be equally distributed between the floor and ceiling of the compartment. If the lower vent is located in the access door or wall, the bottom edge of the vent shall be flush with the floor level of the compartment. The top vent shall be located in the access door or wall with the bottom of the vent not more than 12 inches below the ceiling level of the compartment. All vents shall have an unrestricted discharge to the outside atmosphere. Access doors or panels of compartments shall not be equipped with locks or require special tool or knowledge to open.

4.1.3.3. Contain or container carrier shall be secured in place

on the mobile home by fastenings designed and constructed with a minimum safety factor of four, to withstand loading in any direction equal to four times the filled weight of the container.

4.1.4 Container Valves and Accessories

4.1.4.1 Valves in the assembly of a two-cylinder system shall be arranged so that replacement of containers can be made without shutting off the flow of gas to the appliance(s).

NOTE: This provision is not to be construed as requiring an automatic change-over device.

4.1.4.2 Shutoff valves on the containers shall be protected as follows, in transit, in storage, and while being moved into final utilization:

(a) By setting into a recess of the container to prevent possibility of their being struck if container is dropped upon a flat surface.

(b) By ventilated cap or collar, fastened to the container, capable of withstanding a blow from any direction equivalent to that of a 30-pound weight dropped 4 feet. Construction must be such that the blow will not be transmitted to the valve.

4.1.4.3 Regulators shall be connected directly to the cylinder valve outlets or mounted securely by means of a support bracket and connected to the cylinder valve or valves with listed high pressure flexible connections.

4.1.5 Safety Devices

4.1.5.1. DOT containers shall be provided with safety relief devices as required by the regulations of the U.S. Department of Transportation. ASME containers shall be provided with relief valves in accordance with B.10 of USA Standard for the Storage and Handling of Liquefied Petroleum Gases (USAS Z106.1-1967, NFPA No. 58-1967). Safety relief valves shall have direct communication with the vapor space of the vessel.

4.1.5.2 The delivery side of the gas pressure regulator shall be equipped with a safety relief device set to discharge at a pressure not less than two times and not more than three times the delivery pressure of the regulator.

4.1.5.3 Systems mounted on the hitch shall be so located that the discharge from the safety relief devices shall be into the open

air and not less than three feet horizontally from any opening into the mobile home below the level of such discharge. Relief valves located within liquefied petroleum gas container compartments may be less than three feet from openings provided:

- (a) The bottom vent of the compartment is at the same level or lower than the bottom of any opening into the vehicle, or,
- (b) The compartment is not located on the same wall plane as the opening(s) and is at least two feet horizontally from such openings.

4.1.6 System Enclosure and Mounting

4.1.6.1 Housings and enclosures shall be designed to provide proper ventilation at least equivalent to that specified in 4.1.3.2 of this Part.

4.1.6.2 Doors, hoods, domes, or portions of housings and enclosures required to be removed or opened for replacement of containers shall incorporate means for clamping them firmly in place and preventing them from working loose during transit.

4.1.6.3 Provisions shall be incorporated in the assembly to hold the containers firmly in position and prevent their movement during transit.

4.1.6.4 Containers shall be mounted on a substantial support or a base secured firmly to the vehicle chassis. Neither the container nor its support shall extend below the frame.

4.1.7 System Design and Service Line Pressure

4.1.7.1 Systems shall be of the vapor-withdrawal type.

4.1.7.2 Vapor, at a pressure not over 18 inches water column, shall be delivered from the system into the gas supply connection.

4.1.7.3 Container openings for vapor withdrawal shall be located in the vapor space when the container is in service or shall be provided with a suitable internal withdrawal tube which communicates with the vapor space in or near the highest point in the container when it is mounted in service position, with the vehicle on a level surface. Containers shall be permanently and legibly marked in a conspicuous manner on the outside to show the correct mounting position and the position of the service outlet connection. The method of mounting in place shall be such as to minimize the possibility of an incorrect positioning of the container.

4.2 Oil Tanks

4.2.1 Installation. Oil tanks installed for gravity flow of oil to heating equipment shall be installed so that the top of the tank is no higher than 8 feet above the appliance oil control and the bottom of the tank is not less than 18 inches above the appliance oil control. Listed automatic pumps (oil lifter) shall be mounted no higher than 8 feet above the appliance oil control and not less than 18 inches above the appliance oil control.

4.2.2 Auxiliary Oil Storage Tank. Oil supply tanks affixed to a mobile home shall be so located as to require filling and draining on the outside and shall be securely fastened in position in a place readily available for inspection.

4.2.3 Tank Compartment. If the fuel supply tank is located in a compartment of a mobile home, the compartment shall be ventilated at the bottom to permit diffusion of vapors and shall be insulated from the structural members of the body. Tanks so installed shall be provided with an outside fill and vent pipe and an approved liquid level gage.

4.2.4 Shutoff Valve. A readily accessible, approved manual shutoff valve* shall be installed at the outlet of an oil supply tank. The valve shall be installed to close against the supply.

4.2.5 Fuel Oil Filters. All oil tanks, except for integrally mounted tanks, shall be equipped with an approved oil filter or strainer† located downstream from the tank shutoff valve. The fuel oil filter or strainer shall contain a sump with a drain for the entrapment of water.

5. Piping Systems

5.1 Gas Piping Systems

5.1.1 General. The requirements of this section shall govern the installation of all fuel gas piping attached to any mobile home. None of the requirements listed in this section shall apply to the piping in the appliance(s).

*Such valves are listed in Underwriters' Laboratories Gas and Oil Equipment List under the classification, Valves, Shut-Off Valves, Flammable Liquid Shut-Off Valves.

†Such filters are listed in Underwriters' Laboratories Gas and Oil Equipment List under the classification, Heating and Heating-Cooling Appliance Accessories, Strainers, Oil Burner.

5.1.2 Materials. All materials used for the installation, extension, alteration, or repair of any gas piping system shall be new and free from defects or internal obstructions. It shall not be permissible to repair defects in gas piping or fittings. Inferior or defective materials shall be removed and replaced with acceptable material. The system shall be made of materials having a melting point of not less than 1,450 F, except as provided in 5.1.5 of this Part. They may consist of one or more of the materials described in 5.1.2.1 through 5.1.2.4.

5.1.2.1 Gas pipe shall be steel or wrought-iron pipe complying with USA Standard Wrought-Steel and Wrought-Iron Pipe, B36.10-1959. Threaded copper or brass pipe in iron pipe sizes may be used.

5.1.2.2 Fittings for gas piping shall be wrought iron, malleable iron, steel, or brass (containing not more than 75 percent copper).

5.1.2.3 Copper tubing shall be annealed type, grade K or L, conforming to the Specifications for Seamless Copper Water Tube (ASTM-B88-66), or shall comply with the Specifications for Seamless Copper Tube for Refrigeration Field Service, ASTM B280-66. When used on systems designed for natural gas, such tubing shall be internally tinned.

5.1.2.4 Steel tubing shall be externally corrosion protected and shall have a minimum wall thickness of 0.049 inch.

5.1.3 Piping Design. Each mobile home requiring fuel gas for any purpose shall be equipped with a fuel gas piping system that is designed for LP-Gas only or with a natural gas piping system acceptable for LP-Gas.

5.1.3.1 Where fuel gas piping is to be installed in both portions of an expandable or dual mobile home, the design and construction of the crossover shall be as follows:

(a) There shall be only one point of crossover which shall be located not more than 18 inches from either the front or rear wall and shall be readily accessible from the exterior of the mobile home.

(b) The connector between units shall be an approved type for exterior use, sized in accordance with 5.1.4 of this Part.

(c) The connection shall be made by an approved "quick disconnect" device which shall be designed to provide a positive seal of the supply side of the gas system when such device is separate.

(d) The flexible connector and "quick disconnect" device shall be provided with protection from mechanical and impact damage and located to minimize the possibility of tampering.

(e) Suitable protective coverings for the "quick disconnect" device, when separated, shall be permanently attached to the device or flexible connector.

(f) A 3-inch by 1 $\frac{3}{4}$ -inch etched, stamped, or embossed metal tag not less than 0.020 inch in thickness, of brass, stainless steel, anodized or clad aluminum shall be permanently attached on the exterior wall adjacent to the access to the "quick disconnect" device. Each tag shall be legibly inscribed with the following information:

**Do Not Use Tools to Separate
the "Quick-Disconnect" Device.**

5.1.4 Gas Pipe Sizing. Gas piping systems shall be sized so that the pressure drop to any appliance inlet connection from the gas supply connection or connections, when all appliances are in operation at maximum capacity, is no more than 0.5 inch water column. Conformance may be determined on the basis of test, or the gas piping system may be sized in accordance with Table 4 (next page). The natural gas supply connection shall be not less than $\frac{3}{4}$ -inch nominal pipe size.

5.1.5 Joints for Gas Piping. All pipe joints in the piping system, unless welded or brazed, shall be screw joints that comply with USA Standard Pipe Threads (Except Dryseal) B2.1-1960. Right and left nipples and couplings shall not be used. Unions, if used, shall be of the ground joint type. The material used for welding or brazing pipe connections shall have a melting temperature in excess of 1,000°F.

5.1.6 Joints for Tubing. Joints on tubing shall be made with either a single or double flare of the proper degree, as recommended by the tubing manufacturer, by means of approved gas tubing fittings, or joints may be brazed with material having a melting point exceeding 1,000°F.

5.1.7 Pipe Joint Compound. Screw joints shall be made up tight with approved pipe joint compound, insoluble in liquefied petroleum gas, and shall be applied to the male threads only.

5.1.8 Concealed Tubing. Tubing shall not be run inside walls, floors, or partitions. Where tubing passes through walls, floors,

TABLE 4
Sizing Gas Piping Systems

Combination LP-Natural Gas System (Based on a Total Pressure Drop of $\frac{1}{2}$ in. H ₂ O)			LP-Gas-Only System (Based on a Pressure Drop of $\frac{1}{2}$ in. H ₂ O)		
Main Gas Manifold			Main Gas Manifold		
Total Appliance Input Name Plate Rating	Nominal Pipe Size	Tube od	Total Appliance Input Name Plate Rating	Nominal Pipe Size	Tube od
No More Than:			No More Than:		
7,000 Btu/hr	$\frac{1}{4}$		11,000 Btu/hr	$\frac{1}{4}$	$\frac{3}{8}$
27,000 Btu/hr	$\frac{3}{8}$		42,000 Btu/hr	$\frac{3}{8}$	$\frac{1}{2}$
56,000 Btu/hr	$\frac{1}{2}$		88,000 Btu/hr	$\frac{1}{2}$	$\frac{3}{4}$
115,000 Btu/hr	$\frac{3}{4}$		183,000 Btu/hr	$\frac{3}{4}$	$\frac{3}{4}$
220,000 Btu/hr	1		340,000 Btu/hr	1	
Branch Take-offs			Branch Take-offs		
Individual Appliance Input Name Plate Rating	Nominal Pipe Size	Tube od	Individual Appliance Input Name Plate Rating	Nominal Pipe Size	Tube od
No More Than:			No More Than:		
25,000 Btu/hr		$\frac{3}{8}$	2,500 Btu/hr		$\frac{1}{4}$
31,000 Btu/hr	$\frac{1}{4}$		39,000 Btu/hr		$\frac{3}{8}$
49,000 Btu/hr		$\frac{1}{2}$	49,000 Btu/hr	$\frac{1}{4}$	
64,000 Btu/hr	$\frac{3}{8}$		77,000 Btu/hr		$\frac{1}{2}$
95,000 Btu/hr		$\frac{3}{4}$	100,000 Btu/hr	$\frac{3}{8}$	
120,000 Btu/hr	$\frac{1}{2}$		150,000 Btu/hr		$\frac{3}{8}$
250,000 Btu/hr	$\frac{3}{4}$		190,000 Btu/hr	$\frac{1}{2}$	
			390,000 Btu/hr	$\frac{3}{4}$	

or partitions, or similar installations, such tubing shall be protected by the use of grommets that shall snugly fit both the tubing and the hole through which the tubing passes.

5.1.9 Concealed Joints. No piping or tubing joints shall be located in any floor, wall, partition, or similar concealed construction space.

5.1.10 Location of Gas Supply Connection

5.1.10.1 For LP-Gas-only systems the supply connection shall be located at the hitch, container recess, or in the rear third of the total length of the mobile home and within 18 inches from the left (road) side wall.

TABLE 4
Sizing Gas Piping Systems

Combination LP-Natural Gas System (Based on a Total Pressure Drop of ½ in. H ₂ O)			LP-Gas-Only System (Based on a Pressure Drop of ½ in. H ₂ O)		
Main Gas Manifold			Main Gas Manifold		
Total Appliance Input Name Plate Rating	Nominal Pipe Size	Tube ed	Total Appliance Input Name Plate Rating	Nominal Pipe Size	Tube ed
No More Than:			No More Than:		
7,000 Btu/hr	¼		11,000 Btu/hr	¼	¾
27,000 Btu/hr	¾		42,000 Btu/hr	¾	½
56,000 Btu/hr	½		88,000 Btu/hr	½	¾
115,000 Btu/hr	¾		183,000 Btu/hr	¾	¾
220,000 Btu/hr	1		340,000 Btu/hr	1	
Branch Take-offs			Branch Take-offs		
Individual Appliance Input Name Plate Rating	Nominal Pipe Size	Tube ed	Individual Appliance Input Name Plate Rating	Nominal Pipe Size	Tube ed
No More Than:			No More Than:		
25,000 Btu/hr		¾	2,500 Btu/hr		¼
31,000 Btu/hr	¼		39,000 Btu/hr		¾
49,000 Btu/hr		½	49,000 Btu/hr	¼	
64,000 Btu/hr	¾		77,000 Btu/hr		½
95,000 Btu/hr		¾	100,000 Btu/hr	¾	
120,000 Btu/hr	½		150,000 Btu/hr		¾
250,000 Btu/hr	¾		190,000 Btu/hr	½	
			390,000 Btu/hr	¾	

or partitions, or similar installations, such tubing shall be protected by the use of grommets that shall snugly fit both the tubing and the hole through which the tubing passes.

5.1.9 Concealed Joints. No piping or tubing joints shall be located in any floor, wall, partition, or similar concealed construction space.

5.1.10 Location of Gas Supply Connection

5.1.10.1 For LP-Gas-only systems the supply connection shall be located at the hitch, container recess, or in the rear third of the total length of the mobile home and within 18 inches from the left (road) side wall.

5.1.10.2 For combination LP-Gas and natural gas systems, the natural gas supply connection shall be located under the rear third of the total length of the mobile home and within 18 inches from the left (road) side wall. An additional connection may also be located at the hitch. The system shall be sized to provide adequate capacity from either supply connection for natural gas.

5.1.11 Identification of Gas Supply Connections. A 3 by 1 $\frac{1}{4}$ inch, etched, stamped, or embossed metal tag, not less than 0.020 inch in thickness, of brass, stainless steel, anodized aluminum, or clad aluminum shall be permanently attached on the outside of the exterior wall of the mobile home, as close as possible to each gas supply connection or to the end of the pipe. Each tag shall be legibly inscribed with the information shown in the box on this page or at the top of the next depending on the gas system used.

LP-Gas System

This gas piping system is designed for use of liquefied petroleum gas only.

**DO NOT CONNECT NATURAL GAS TO THIS SYSTEM.
CONTAINER SHUTOFF VALVES SHALL BE CLOSED
DURING TRANSIT.**

Before turning on gas, make certain all gas connections have been made tight, all appliance valves are turned off, and any unconnected outlets are capped.

After turning on gas, test gas piping and appliance for leakage with soapy water, and light all pilots.

5.1.12 Gas Supply Connectors

5.1.12.1 Natural Gas. A listed minimum $\frac{1}{2}$ inch nominal (ID) gas supply connector, with $\frac{3}{4}$ inch NPT terminal fittings, six feet in length, shall be supplied by the manufacturer when the fuel gas piping system is designed for the use of natural gas.

5.1.12.2 LP-Gas. A listed LP-Gas flexible connector shall be supplied when the fuel gas piping system is designed for the use of LP-Gas and cylinder(s) and regulator(s) are supplied.

5.1.13 Appliance Connections. All gas-burning appliances shall be connected to the fuel piping with materials as provided in 5.1.2

Combination LP-Gas and Natural Gas System

This gas piping system is designed for use of either liquefied petroleum gas or natural gas.

NOTICE: BEFORE TURNING ON GAS BE CERTAIN APPLIANCES ARE DESIGNED FOR THE GAS CONNECTED AND ARE EQUIPPED WITH CORRECT ORIFICES. SECURELY CAP THIS INLET WHEN NOT CONNECTED FOR USE.

Before turning on gas, make certain all gas connections have been made tight, all appliance valves are turned off, and any unconnected outlets are capped.

After turning on gas, test gas piping and appliances for leakage with soapy water, and light all pilots.

of this Part or with listed appliance connectors of semirigid tubing. Listed appliance connectors when used shall not run through walls, floors, or partitions. Listed appliance connectors of aluminum shall not be used externally.

5.1.14 Valves. Shutoff valves and appurtenances used in connection with gas piping shall be of a type designed and approved for use on LP-Gas.

5.1.15 Gas Inlet Cap. On gas supply systems provided with more than one connection, a suitable cap to effectively close the gas inlet not in use shall be securely attached to the mobile home.

5.1.16 Electric Ground. Gas piping shall not be used for an electrical ground.

5.1.17 Couplings. Where it is necessary to join sections of screw piping, right and left nipples and couplings shall not be used. Ground joint unions may be installed at appliance inlet connections.

5.1.18 Hangers and Supports. All gas piping shall be adequately supported by galvanized or equivalently protected metal straps or hangers at intervals of not more than 4 feet, except where adequate support and protection is provided by structural members. Solid-iron-pipe gas supply connection(s) shall be rigidly anchored to a structural member within 6 inches of the supply connection(s).

5.1.19 Testing for Leakage.

5.1.19.1 Before Appliances are Connected. Piping systems shall stand a pressure of at least six inches mercury or three pounds gage for a period of not less than ten minutes without showing any drop in pressure. Pressure shall be measured with a mercury manometer or slope gage, or an equivalent device calibrated so as to be read in increments of not greater than one-tenth pound. The source of pressure shall be isolated before the pressure tests are made.

NOTE: Before a test is begun, the temperature of the air and of the piping should be the same, and constant air temperature should be maintained throughout the test.

5.1.19.2 When appliances are connected to the piping system the entire system shall be pressurized to not less than 10 inches nor more than 14 inches water column and the appliance connections tested for leakage with soapy water.

5.2 Oil Piping Systems

5.2.1 General. The requirements of this Section shall govern the installation of all liquid fuel piping attached to any mobile home. None of the requirements listed in this Section shall apply to the piping in the appliance(s).

5.2.2 Materials. All materials used for the installation, extension, alteration, or repair of any oil piping system shall be new and free from defects or internal obstructions. The system shall be made of materials having a melting point of not less than 1,450°F, except as provided in 5.2.4. They may consist of one or more of the following materials:

5.2.2.1 Pipe shall be steel or wrought-iron pipe complying with USA Standard Wrought-Steel or Wrought-Iron Pipe, B36.10-1959. Threaded copper or brass pipe in iron pipe sizes may be used.

5.2.2.2 Fittings for oil piping shall be wrought iron, malleable iron, steel, or brass (containing not more than 75 percent copper).

5.2.2.3 Copper tubing shall be annealed type, grade K or L conforming to the Specifications for Seamless Copper Water Tube (ASTM B88-66), or shall comply with the specifications for Seamless Copper Tube for Refrigeration Field Service, ASTM B280-66.

5.2.2.4 Steel tubing shall be externally corrosion protected and shall have a minimum wall thickness of 0.049 inch.

5.2.3 Size of Oil Piping. The minimum size of all fuel oil tank piping connecting outside tanks to the appliance shall be no smaller than $\frac{3}{8}$ inch od copper tubing or $\frac{1}{4}$ inch IPS. In those cases where No. 1 fuel oil is used with a listed automatic pump (fuel lifter), $\frac{1}{4}$ inch od copper tubing may be used if specified by the pump manufacturer.

5.2.4 Joints for Oil Piping. All pipe joints in the piping system, unless welded or brazed, shall be screw joints which comply with USA Standard Pipe Threads (Except Dryseal), B2.1-1960. The material used for welding or brazing pipe connections shall have a melting temperature in excess of 1,000°F.

5.2.5 Joints for Tubing. Joints on tubing shall be made with either a single or double flare of the proper degree, as recommended by the tubing manufacturer, by means of approved tubing fittings. Joints may be brazed with materials having a melting point in excess of 1,000°F.

5.2.6 Pipe Joint Compound. Screw joints shall be made up tight with approved pipe joint compound which shall be applied to the male threads only.

5.2.7 Couplings. Where it is necessary to join sections of screw piping, right and left nipples and couplings shall not be used. Ground joint unions may be installed at appliance inlet connections.

5.2.8 Grade of Piping. Fuel oil piping installed in conjunction with gravity feed systems to oil heating equipment shall slope in a gradual rise upward from a central location to both the oil tank and the appliance in order to eliminate air locks.

5.2.9 Strap Hangers. All oil piping shall be adequately supported by galvanized or equivalently protected metal straps or hangers at intervals of not more than 4 feet, except where adequate support and protection is provided by structural members. Solid-iron-pipe oil supply connection(s) shall be rigidly anchored to a structural member within 6 inches of the supply connection(s).

5.2.10 Testing for Leakage. Before setting the system in operation, tank installations and piping shall be checked for oil leaks with fuel oil of the same grade that will be burned in the appliance. No other material shall be used for testing fuel oil tanks and piping. Tanks shall be filled to maximum capacity for the final check for oil leakage.

6. Heat-Producing Appliances

6.1 Every heat producing appliance used in mobile homes shall be listed or certified by an approved testing agency for this application.

6.2 Fuel Conversion. No fuel-burning appliance shall be converted from one fuel to another unless converted in accordance with the terms of its listing.

6.3 Venting

6.3.1 Fuel-burning heating appliances, except listed ranges, ovens, and illuminating appliances not required to be vented, shall be of the vented type and vented to the outside. In no case shall the vent of a gas-burning appliance terminate underneath the mobile home.

6.3.2 Fuel-burning heat producing appliances, except ranges and illuminating appliances, shall be designed or installed to provide for a complete separation of the combustion system from the atmosphere of the mobile home. Combustion air inlets and flue gas outlets shall be listed or certified as components of the appliance.

NOTE: For liquefied petroleum gas appliances, see Division VI, Section 6.11 of the Standard for the Storage and Handling of Liquefied Petroleum Gases, USAS Z106.1-1967, NFPA No. 58-1967.

6.3.3 Vents, roof jacks, and special fittings supplied as component parts of an appliance shall be installed in conformity with the terms of their listing. A single wall metal vent shall not be used unless it is a component part of a listed appliance.

6.3.4 Every joint of any vent or vent connector shall be secure, rigid, tight, and of approved design and workmanship.

6.3.5 The area in which cooking appliances are located shall be ventilated by a metal duct which may be single wall, not less than 12.5 square inches in cross sectional area (minimum dimension shall be two inches), located above the appliance(s), or by mechanical ventilating equipment that is installed in accordance with the requirements of the testing agency and the manufacturer's instructions. Gravity or mechanical ventilation shall be installed within a horizontal distance of not more than ten feet from the vertical front of the appliance(s). Metal hoods incorporating ducts shall be designed so that the duct outlet is located at such a point

as to preclude the trapping of products of combustion. All ducts shall extend through the wall or roof to the outer air.

6.4 Installation. The installation of each heat-producing appliance shall conform to the terms of its listing as specified on the appliance and in the manufacturer's instructions. The installer shall leave the manufacturer's instructions attached to the appliance. Every appliance shall be secured in place to avoid displacement and movement from vibration and road shock.

6.5 Instructions. Operating instructions shall be provided with the appliance.

6.6 Marking

6.6.1 Information on clearances, input ratings, lighting and shutdown shall be attached to the appliances with the same permanence as the nameplate, and so located that it is easily readable when the appliance is properly installed.

6.6.2 Each fuel burning appliance shall bear permanent marking designating the type(s) of fuel for which it is listed.

6.7 Accessibility. Every appliance shall be accessible for inspection, service, repair, and replacement without removing permanent construction. Sufficient room shall be available to enable the operator to observe the burner, control, and ignition means while starting the appliance.

6.8 Location. Heat-producing appliances shall be so located that no doors, drapes, or other such material can be placed or swung closer to the front of the appliance than the clearances specified on the labelled appliances.

6.9 Clearances. Clearances between heat-producing appliances and adjacent surfaces shall not be less than specified in the terms of their listing. Clearance spaces shall be framed in or guarded to prevent creation of storage space within the clearance specified.

6.10 Air Ducts

6.10.1 Material. Supply ducts shall be made from galvanized steel, tin-plated steel, or aluminum, or shall be listed Class I air ducts. A duct system integral with the structure may be acceptable if it is of durable construction that can be demonstrated to be equally resistant to fire and deterioration. Ducts constructed from sheet metal shall be in accordance with Table 5. Portions of return ducts directly above the heating surface of the appliance, or closer than 2 feet horizontally from the outer jacket or casing of

the appliance, shall be constructed in accordance with the requirements of Table 5 or shall be listed Class I air ducts.

TABLE 5
Minimum Metal Thickness for Ducts*

Duct Type	Diameter 14 inches or less	or	Width over 14 inches
Round	0.013 in.		0.016 in.
Enclosed Rectangular	0.013 in.		0.016 in.
Exposed Rectangular	0.016 in.		0.019 in.

*When 'nominal' thicknesses are specified, 0.003 inch shall be added to these 'minimum' metal thicknesses.

6.10.2 Sizing of Ducts. Ducts shall be designed so that when a labeled forced-air furnace is installed and operated continually at its normal input rating in the mobile home, with all registers in full open position, the static pressure measured in the duct plenum shall not exceed that shown in Table 6 or exceed that shown on the label of the appliance. When an air-cooler coil is installed in the system, the total static pressure of the coil and the system shall not exceed that shown on the label of the appliance. The minimum dimension of any branch duct shall be at least 1½ inches, and of any main duct, 2½ inches.

6.10.3 Joints and Seams. Joints and seams of ducts shall be securely fastened and made substantially airtight. Slip joints shall have a lap of at least 1 inch and shall be individually fastened.

TABLE 6
Maximum Allowable Static Pressures in Supply Duct Systems

Input to Forced Air Furnace, Btu/hr	External Static Pressure, Inches Water Column	
	Temperature of Outlet Air Determined by Function of Limit Control	
	Above 165°F	165°F or Less
55,000 and under	0.10	0.20
Over 55,000 to 80,000	0.12	0.24
Over 80,000 to 100,000	0.15	0.30

Tape or caulking compound may be used for sealing mechanically secure joints. Where used, tape or caulking compound shall not be subject to deterioration under long exposures to temperatures up to 200°F and to conditions of high humidity, excessive moisture, or mildew.

6.10.4 Airtightness of Supply Duct Systems. A supply duct system shall be considered substantially airtight when the static pressure in the duct system, with all registers sealed and with the furnace air circulator at high speed, is at least 80 percent of the static pressure measured in the furnace casing, with its outlets sealed and the furnace air circulator operating at high speed. For the purpose of this paragraph and 6.10.2, pressures shall be measured with a water manometer or equivalent device calibrated to read in increments not greater than 1/10 inch water column.

6.10.5 Supports. Ducts shall be securely supported.

6.11 Circulating Air

6.11.1 Return Air Openings. Provisions shall be made to permit the return of circulating air from all rooms and living spaces, except toilet room(s), to the circulating air supply inlet of the furnace.

6.11.2 Return Air Ducts. The cross-sectional areas of the return air duct shall not be less than 2 square inches for each 1,000 Btu per hour input rating of the appliance. No damper shall be placed in any return air duct, except that a diverting damper may be placed in a combination fresh air intake and return air duct so arranged that for all possible positions of the damper the required cross-sectional area will not be reduced.

6.11.3 Permanent Unclosable Openings. Living space not served by return air ducts and closed off from the return opening of the furnace by doors, sliding partitions, or other means shall be provided with permanent unclosable openings in the doors or separating partitions to allow circulated air to return to the furnace. Such openings may be grilled or louvered. The net free area of each opening shall be not less than 1 square inch for every 5 square feet of total living space closed off from the furnace by the door or partition serviced by that opening. Undercutting doors connecting the closed-off space may be used as a means of providing return air area. However, in the event that doors are undercut, they shall be undercut a minimum of 2 inches and no more than 2½ inches, and no more than one half of the free air area so provided shall be counted as return air area.

APPENDIX TO PART III

Applicable Standards

Standards for Air Conditioning and Heat-Producing
Appliances and Equipment*

Type	USASI (Formerly ASA)	UL	Other Standards
<i>Appliances</i>			
Liquid Fuel-Burning Heating Appliances for Mobile Homes and Travel Trailers		307 (a) 1965	
Gas-Heating Appliances for Mobile Homes and Travel Trailers		307 (b) 1965	
Clothes Dryers (Gas-Fired) Commercial Gas-Fired and Electrically-Heated Hot Water Generating Equipment	Z21.5.1-1966		NSF-5 1959
Gas-Fired Gravity and Forced Air Central Furnaces	Z21.47-1965		
Gas-Fired Gravity and Fan Type Floor Furnaces	Z21.48-1966		
Gas-Fired Gravity and Fan Type Sealed Combustion System Wall Furnaces	Z21.44-1966		
Commercial Cooking and Warming Equipment			NSF-4 1967
Gas-Fired Illuminating Appliances	Z21.42-1963		
Domestic Gas Ranges, Free Standing	Z21.1.1-1966		
Domestic Gas Ranges, Built-in Domestic Cooking Units	Z21.1.2-1966		
Refrigerators Using Gas-Fuel Automatic Storage Type Water Heaters with Input Less than 50,000 BTUH	Z21.19-1966		
	Z21.10.1-1966		
<i>Ferrous Pipe and Fittings</i>			
Black and Hot Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses			ASTM A-120-66 WW-P-406b(1)'64
Pipe Threads	B2.1-1960		
Wrought-Steel and Wrought-Iron Pipe	B36.10-1959		

Type	USASI (Formerly ASA)	UL	Other Standards
<i>Nonferrous Pipe, Tubing and Fittings</i>			
Seamless Copper Water Tube			ASTM B-88-66
Seamless Copper Tube for Air Conditioning and Re- frigeration Field Service			ASTM B-280-66
Metal Connectors for Gas Ap- pliances	Z21.24-1966		
Manually Operated Gas Valves	Z21.15-1966		
Mobile Home Gas Connectors (Flexible Metal-Plastic Coated)			TSC 9-63
Seamless Copper and Copper Alloy Pipe and Tube			ASTM B-251-67
Seamless Copper Pipe, Stan- dard Sizes			ASTM B-42-66 WW-P-377d'62
<i>Miscellaneous</i>			
Air Ducts		181-67	
Flame Tests of Flame-Resis- tant Fabrics		214-55	
Tube Fittings for Flammable and Combustible Fluids and Refrigeration Service		109-66	
Hoods			GAL
LPG Containers and Accessories			ASME, DOT
Pigtails, Expansion Coils, and Flexible Hose Connectors for LP-Gas		569-59	
Roof Jacks for Trailer Coaches		311-58	
Safety Devices — Appliances	Z21.22-1965 Z21.20-1966 Z21.23-1965 Z21.21-1963		
Gas Vents	A131.2-1964	441-64	
Factory-Built Chimneys	A131.1-1964	103-64	
Installation of Oil Burning Equipment	Z95.1-1965		NFPA No. 31-1968
Installation of Gas Appliances, Gas Piping in Buildings	Z21.30-1964		NFPA No. 54-1964
Storage and Handling of Liq- uefied Petroleum Gas	Z106.1-1967		NFPA No. 58-1967

*Dates shown are latest editions at time of printing including the dates of any Addenda issued.

Notes to Table III

Abbreviations used in Table III refer to standards as identified below and elsewhere in this standard.

AGA: Standards and Tentative Standards published by the *American Gas Association*, 1032 East 62nd Street, Cleveland, Ohio 44103.

ASA: *American Standards Association* — now *United States of America Standards Institute* (USASI), 10 East 40th St., New York, N. Y. 10016.

ASME: Standards and Tentative Standards published by the *American Society of Mechanical Engineers*, 345 East 47th Street, New York, N. Y. 10017.

ASTM: Standards and Tentative Standards published by the *American Society for Testing and Materials*, 1916 Race Street, Philadelphia, Pa. 19103.

DOT — Regulations published in the Federal Code of Regulations for the Department of Transportation. Title 49, Parts 171-190 of the FCR are applicable. Available from the U.S. Government Printing Office, Washington, D. C. 20234.

GAL: Gas Appliance Laboratories, 3134 East Olympic Boulevard, Los Angeles, California 90023.

IAPMO — Standards [designated above as TSC (Trailer Standard)] published by the *International Association of Plumbing and Mechanical Officials*, 5032 Alhambra Ave., Los Angeles, Calif. 90032 [formerly *Western Plumbing Officials Association* (WPOA.)].

UL: Standards and Tentative Standards published by the *Underwriters' Laboratories Inc.*, 207 East Ohio St., Chicago, Illinois 60611.

USASI: USA Standards approved by the *United States of America Standards Institute*, 10 East 40th Street, New York, N. Y. 10016.

Part IV

Electrical Systems

1. Introduction

1.1 Much of the material in Part IV has been taken from, or is based on, the National Electrical Code (USAS C1-1968, NFPA No. 70 — 1968).

2. Scope

2.1 Part IV of this standard covers the electric conductors and equipment installed within or on mobile homes and also the conductors that connect them to a supply of electricity.

2.2 This standard is not intended as a design specification or an instruction manual for untrained persons.

2.3 The National Electrical Code (USAS C1-1968) will prevail except as otherwise permitted or required in Part IV of the Standard.

2.4 The provisions of this Standard are not intended to prevent the use of any material, appliance, installation, device, arrangement, or method of construction not specifically prescribed herein, provided any such alternative has been approved or listed. An enforcement agency may approve any such alternative if it finds the proposed design is satisfactory for the purpose intended, and if the material, appliance, installation, device, arrangement, and method or work offered is, for the purpose intended, at least the equivalent performance of that prescribed in this standard considering quality, strength, effectiveness, durability, safety, and protection of life and health. An enforcement authority shall require that satisfactory evidence or proof be submitted to substantiate any claims that may be made regarding the use of any such alternative.

3. Definitions

Accessible (as Applied to Wiring Methods). Not permanently closed-in by the structure or finish of the mobile home; capable of being removed without disturbing the mobile home structure or finish. (See "Concealed" and "Exposed.")

Accessible (as Applied to Equipment). Admitting close approach because not guarded by locked doors, elevation, or other effective means. (See "Readily Accessible.")

Air Conditioning or Comfort Cooling Equipment. All of that equipment intended or installed for the purpose of processing the treatment of air so as to control simultaneously its temperature, humidity, cleanliness, and distribution to meet the requirements of the conditioned space.

Appliance. Utilization equipment, generally other than industrial, normally built in standardized sizes or types, which is installed or connected as a unit to perform one or more functions, such as clothes washing, air conditioning, food mixing, deep frying, etc.

Appliance, Fixed. An appliance fastened or otherwise secured at a specific location.

Appliance, Portable. An appliance that is actually moved or can easily be moved from one place to another in normal use.

NOTE: For the purpose of this standard, the following major appliances are considered portable: Refrigerators, clothes washers, dishwashers without booster heaters, or other similar appliances.

Appliance, Stationary. An appliance that cannot be easily moved from one place to another in normal use.

Approved. The word "approved" as used in this standard means acceptable to the authority having jurisdiction.

Attachment Plug (Plug Cap) (Cap). A device that, by insertion in a receptacle, establishes connection between the conductors of the attached flexible cord and the conductors connected permanently to the receptacle.

Branch Circuit. That portion of a wiring system extending beyond the final overcurrent device protecting the circuit.

NOTE: A device not approved for branch circuit protection, such as a thermal cutout or motor overload protective device, is not considered as the overcurrent device protecting the circuit.

Branch Circuit—Appliance. A circuit supplying energy to one or more outlets to which appliances are to be connected and which has no permanently connected lighting fixtures not a part of an appliance.

Branch Circuit—General Purpose. A branch circuit that supplies a number of outlets for lighting and appliances.

Branch Circuit—Individual. A branch circuit that supplies only one utilization equipment.

Cabinet. An enclosure designed either for surface or flush mounting, and provided with a frame, mat, or trim in which swinging doors are hung.

Circuit Breaker. A device designed to open and close a circuit by nonautomatic means, and to open the circuit automatically on a predetermined overload of current, without injury to itself when properly applied within its rating.

Concealed. Rendered inaccessible by the structure or finish of the mobile home. Wires in concealed raceways are considered concealed, even though they may become accessible by withdrawing them.

Connector, Pressure (Solderless). A pressure wire connector is a device that establishes the connection between two or more conductors or between one or more conductors and a terminal by means of mechanical pressure and without the use of solder.

Dead Front (As Applied to Switches, Circuit-Breakers, Switchboards, and Distribution Panel). So designed, constructed, and installed that no current-carrying parts are normally exposed on the front.

Demand Factor. The ratio of the maximum demand of the system, or part of a system, to the total connected load of the system or of the part of the system under consideration.

Device. A unit of an electrical system that is intended to carry but not utilize electrical energy.

Disconnecting Means. A device, or group of devices, or other means whereby the conductors of a circuit can be disconnected from their source of supply.

Distribution Panel. A single panel or a group of panel units designed for assembly in the form of a single panel, including buses, and with or without switches or automatic overcurrent protective devices or both, for the control of light, heat, or power circuits of small individual as well as aggregate capacity; designed to be placed in a cabinet placed in or against a wall or partition and accessible only from the front.

Enclosed. Surrounded by a case that will prevent a person from accidentally contacting live parts.

Equipment. A general term, including material, fittings, devices, appliances, fixtures, apparatus, and the like, used as a part of, or in connection with, an electrical installation.

Exposed (as Applied to Live Parts). A live part that can be inadvertently touched or approached nearer than a safe distance. It is applied to parts not suitably guarded, isolated, or insulated. (See "Accessible" and "Concealed.")

Exposed (as Applied to Wiring Method). Not concealed.

Externally Operable (As Applied to Equipment That Is Enclosed in a Case or Cabinet). Capable of being operated without exposing the operator to contact with live parts.

Fitting. An accessory, such as a locknut, bushing, or other part of a wiring system, that is intended primarily to perform a mechanical rather than an electrical function.

Ground. A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and earth, or to some conducting body that serves in place of the earth.

Grounded. Connected to earth or to some conducting body that serves in place of the earth.

Grounded Conductor. A conductor that is intentionally grounded, either solidly or through a current-limiting device.

Grounding Conductor. A conductor used to connect an equipment, device, or wiring system with a grounding electrode.

Guarded. Covered, shielded, fenced, enclosed, or otherwise protected, by means of suitable covers or casings, barriers, rails or screens, mats or platforms, to eliminate the liability of contact or approach of persons or objects to a point of danger.

Identified Ground. The conductor or terminal to which it refers is to be recognized as grounded.

Isolated. Not readily accessible to persons unless special means for access are used.

Labeled. Equipment or materials to which has been attached a label of a nationally recognized testing laboratory that maintains periodic inspection of production of labeled equipment or materials and by whose labeling is indicated compliance with nationally recognized standards or the conduct of tests to determine suitable usage in a specified manner.

Lighting Outlet. An outlet intended for the direct connection of a lamp holder, a lighting fixture, or a pendant cord terminating in a lamp holder.

Listed. Equipment or materials included in a list published by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

Mobile Home. A vehicular, portable structure built on a chassis and designed to be used without a permanent foundation* as a dwelling when connected to indicated utilities.

Outlet. A point on the wiring system at which current is available to supply utilization equipment.

Power Supply Assembly. The conductors, including the grounding conductors, insulated from one another, the connectors, attachment plug caps, and all other fittings, grommets, or devices installed for the purpose of delivering energy from the service equipment to the distribution panel within the mobile home.

Raceway. Any channel for holding wires, cables, or bus bars that is designed expressly for, and used solely for, this purpose. Raceways may be of metal or insulating material and the term includes rigid metal conduit, flexible metal conduit, electrical metallic tubing, underfloor raceways, cellular metal floor raceways, surface metal raceways, wireways and busways, and rigid nonmetallic conduit.

Raintight. So constructed or protected that exposure to a beating rain will not result in the entrance of water.

Readily Accessible. Capable of being reached quickly for operation, renewal, or inspection, without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, etc. (See "Accessible.")

Receptacle (Convenience) Outlet. A receptacle is a contact device installed at an outlet for the connection of an attachment plug and flexible cord.

Service Equipment. The necessary equipment, usually consisting of circuit breaker or switch and fuses and their accessories located near the point of entrance of supply conductors in a mobile home and intended to constitute the main control and means of cutoff for the supply to that mobile home.

*The phrase "without a permanent foundation" indicates that the support system is constructed with the intent that the mobile home placed thereon will be moved from time to time at the convenience of the owner.

Utilization Equipment. Equipment that utilizes electric energy for mechanical, chemical, heating, lighting, or similar useful purposes.

Voltage (of a Circuit). The greatest effective difference of potential between any two conductors of the circuit concerned.

Weatherproof. So constructed or protected that exposure to the weather will not interfere with its successful operation.

4. General Requirements

4.1 The following requirements apply to mobile homes intended for connection to a wiring system nominally rated 115/230 volts, 3-wire, AC with grounded neutral.

4.2 Mobile homes shall be provided with a power supply in accordance with Section 10 of this Part.

4.3 Mobile homes shall be provided with disconnecting means and branch circuit protective equipment installed in accordance with Section 9 of this Part.

4.4 A mobile home not intended as a dwelling unit, as for example, equipped for sleeping purposes only, contractor's on-site offices, construction job dormitories, mobile studio dressing rooms, banks, clinics, mobile stores, or intended for the display or demonstration of merchandise or machinery, shall not be required to meet the provisions of this Article pertaining to the number or capacity of circuits required. It shall, however, meet all other applicable requirements of this Part if provided with an electrical installation intended to be energized from a 115 volt or 115/230 volt AC power supply system.

5. Materials and Equipment

5.1 Electrical materials, devices, appliances, fittings, and other equipment installed, intended for use in, or attached to, the mobile home shall be listed by a nationally recognized testing agency.

6. Receptacle Outlets Required

6.1 Except in the bath and hall areas, receptacle outlets shall be installed at wall spaces 2 feet wide or more, so that no point along the floor line is more than 6 feet, measured horizontally, from an outlet in that space. Except as explained in the following, receptacle outlets are not required for wall spaces occupied by

for other than motor loads or 80 percent of the branch-circuit rating for air conditioning or other motor loads;

(c) The rating of a single portable appliance on a circuit having no other outlets shall not exceed 80 percent of the circuit rating;

(d) The rating of range branch circuit shall be based on the range demand as specified for ranges in Section 8 of this Part.

(e) Where laundry facilities are provided, in a mobile home, a 20 ampere branch circuit shall be provided with a 20 ampere outlet within six feet of the intended location of the appliance.

8. Calculations for Lighting and Appliance Load

8.1 The following method is to be employed in computing the supply cord and distribution panel load for each power supply assembly for each mobile home;

A. Lighting Watts: Length times width of mobile home (outside dimensions, exclusive of hitch) times 3 watts per square foot; e.g.,
 $\text{Length} \times \text{width} \times 3 = \dots\dots\dots$ lighting watts.

B. Small Appliance Watts: Number of circuits times 1,500 watts for each 20-ampere appliance receptacle circuit (see definition of Appliance, Portable with note); e.g.,
 $\text{Number of circuits} \times 1,500 = \dots\dots\dots$ small appliance watts.

C. Total Watts: Lighting watts plus small appliance = $\dots\dots\dots$ total watts.

First 3,000 total watts at 100 percent plus remainder at 35 percent = $\dots\dots\dots$ watts to be divided by 230 volts to obtain current (amperes) per leg.

D. Total load for determining power supply is the summation of:

- (1) Lighting and small appliance load as calculated in A and B.
- (2) Name plate amperes for motors and heater loads (exhaust fans, air conditioners,* electric, gas, or oil heating).**
- (3) Add 25% of current of largest motor in (2).
- (4) Total of nameplate amperes for: Disposal, Dishwasher, Water heater, Clothes dryer, Wall-mounted oven, Cooking units.

*Omit smaller of these two, except include blower motor if used as air conditioner evaporator motor.

**When an air conditioner is not installed and a 40-ampere power supply cord is provided, allow 15 amperes per leg for air conditioning.

Where number of these appliances exceeds three use 75% of total.

(5) Derive amperes for free standing range (as distinguished from separate ovens and cooking units) by dividing values below by 230 volts.

Name Plate Rating	Use
10,000 w \times or less	80 percent of rating
10,001-12,500 w	8,000 w
12,501-13,500 w	8,400 w
13,501-14,500 w	8,800 w
14,501-15,500 w	9,200 w
15,501-16,500 w	9,600 w
16,501-17,500 w	10,000 w

(6) If outlets or circuits are provided for other than factory installed appliances include the anticipated load.

NOTE: The following example is given to illustrate the application of this Method of Calculation:

Example

A mobile home is 70 \times 10 feet and has two portable appliance circuits, a 1000 watt 230 volt heater, a 200 watt 115 volt exhaust fan, a 400 watt 115 volt dishwasher and a 7000 watt electric range.

Lighting and small appliance load

Lighting 70 \times 10 \times 3 =

2100 watts

Small appliance 1500 \times 2 =

3000 watts

5100 watts

1st 3000 watts at 100%

3000

Remainder (5,100 - 3,000 = 2,100) at 35%

735

3735

3735

----- = 16 amperes per leg

230

1000 watt (heater) \div 230 =

4.4 amp

200 watt (fan) \div 115 =

1.7 amp

400 watt (dishwasher) \div 115 =

3.5 amp

7000 watt (range) \times .8 \div 230 =

24. amp

Amperes per leg

Lighting and appliances

A B

Heater (230 volt)

16 16

Fan (115 volt)

4 4

Dishwasher (115 volt)

2 —

Range

— 4

24 24

Totals 46 48

Based on the higher current calculated for either leg, use one 50 ampere supply cord.

9. Disconnecting Means and Branch Circuit Protective Equipment

9.1 Mobile homes shall contain a distribution panel having a main overcurrent protective device rated not in excess of the current carrying capacity of the power supply assembly, installed with supply cord and branch circuits wired at the factory.

9.2 The distribution panel shall be installed in a readily accessible location near the point of entrance of the supply cord.

9.3 The distribution panel may be located with its front just inside a closet door, or it may be located in a closet above any shelf or floor if the location is such that a clear space of 6 inches is maintained in front of the distribution panel. However, working space shall be provided as required by the National Electrical Code (USAS C1-1968, NFPA No. 70-1968).

9.4 An appropriately rated service equipment panel or an enclosed panel board or an enclosed panel base assembly, approved and marked, "SUITABLE FOR USE AS SERVICE EQUIPMENT," shall be used. The distribution panel shall be of the insulated neutral type, with a grounding bar bonded to the metal frame of the panel or other approved grounding means.

9.5 A distribution panel main circuit-breaker shall be rated 50 amperes and employ a 2-pole circuit breaker rated 40 amperes for a 40-ampere supply cord, or 50 amperes for a 50-ampere supply cord. A distribution panel employing a disconnect switch and fuses shall be rated 60 amperes and shall employ a single 2-pole, 60-ampere fuseholder with 40- or 50-ampere main fuses for 40- or 50-ampere supply cords, respectively. The outside of the distribution panel shall be plainly marked with the fuse size. The main circuit breakers or fuses shall be plainly marked "Main."

9.6 Plug fuses and fuseholders shall be tamper-resistant, Type "S," enclosed in dead-front fuse panels.

9.7 The provisions of Article 210, of the National Electrical Code (USAS C1-1968) shall apply to branch circuits supplying lighting or appliance loads or combinations of such loads. Where motors or motor operated appliances are connected to any circuit supplying lighting or other appliance loads, the provisions of both Article 210 and Article 430 of the National Electrical Code shall apply. Article 430 of the National Electrical Code shall apply where branch circuit supplies only motor loads.

for use with a receptacle rated 50 amperes, 125/250 volts. It shall be molded of butyl rubber, neoprene, or other approved materials which have been found suitable for the purpose, and shall be molded to the flexible cord so that it adheres tightly to the cord at the point where the cord enters the attachment-plug cap. If a right-angle cap is used, the configuration shall be so oriented that the grounding member is farthest from the cord.

***10.7** The over-all length of the power-supply assembly, measured from the end of the cord, including bared leads, to the face of the attachment-plug cap shall be no less than 21 feet and shall not exceed 26½ feet. The length of the cord from the face of the attachment-plug cap to the point where the outer jacket of the cord is removed shall be at least 20½ feet.

10.8 The power-supply cord shall bear the following marking on the manufacturer's portion of the combination label: "For use with mobile homes — 40 amperes" or "For use with mobile homes — 50 amperes."

NOTE: The "For use with mobile homes — 40 ampere" power-supply assembly is for mobile homes that are factory-equipped with gas or oil-fired heating and cooking appliances.

10.9 The point of entrance of the power-supply assembly to the mobile home shall be in the exterior wall, floor, or roof, in the rear third section (away from the hitch) of the mobile home.

***10.10** Where a separately metered appliance is installed in the mobile home, or where the calculated load of the mobile home is between 50 amperes and 100 amperes, a second 50-ampere power-supply assembly may be installed, or a service as provided for in 10.1 and 10.11. The point of entrance of this second power-supply assembly shall be located not more than 12 inches away from the point of entrance of the main power-supply assembly. They shall not be interconnected on either the line side or the load side, except that the grounding circuits and grounding means shall be electrically interconnected.

***10.11** Where the calculated load exceeds 100 amperes or where a permanent feeder is used, the supply shall be by means of:

(a) one mast weatherhead installation installed in accordance with the National Electrical Code (USAS C1-1968), and containing four continuous insulated color-coded feeder conductors, one of which shall be a grounding conductor; or,

*See Tentative Interim Amendment No. 1-1968, page A119.1-106.

(b) an approved metal raceway from the disconnecting means to the underside of the mobile home with provisions for the attachment of a suitable junction box or fitting to the raceway on the underside of the mobile home [with or without conductors as in 10.11 (a)].

11. Wiring Methods

11.1 Electrical metallic tubing, flexible metallic conduit, armored cable, and nonmetallic sheathed cable, with grounding conductor shall terminate by means of fittings, clamps, or connectors approved for the purpose.

11.2 Rigid metal conduit shall be provided with a locknut inside and outside the box, and a conduit bushing shall be used on the inside. Inside ends of the conduit shall be reamed.

11.3 Nonmetallic outlet boxes are acceptable only with non-metallic sheathed cable.

11.4 Outlet boxes shall fit closely to openings in combustible walls and ceilings; and they shall be flush with such surfaces.

11.5 Boxes, fittings and cabinets shall be securely fastened in place.

Exception: Snap-in type boxes or boxes provided with special wall or ceiling brackets that securely fasten boxes in walls or ceilings may be used.

11.6 The sheath or armor shall be continuous between outlet boxes and other enclosures.

11.7 Metal-clad and nonmetallic cables may be passed through the centers of the wide side of 2 by 4 studs. However, they shall be protected where they pass through 2 by 2 studs or at other studs or frames where the cable or armor would be less than 1½ inches from the inside or outside surface. Steel plates on each side of the cable, or a tube, with not less than No. 16 manufacturer's standard gage wall thickness, are required to protect the cable. These plates or tubes shall be securely held in place.

Exception: Wires may be run without steel protectors through notched wall studs when the notch is on the inside (room side) of the stud, and the inside wall material is applied prior to the installation of the wiring. This exception is applicable only if there is sufficient wall stud depth

ducting faceplates (metal faceplates screws may be used with non-conducting faceplates without being grounded), or (b) grounded.

13.2 Metallic faceplates shall be of ferrous metal not less than 0.030 inch in thickness or of nonferrous metal not less than 0.040 inch in thickness.

13.3 Faceplates of insulating material shall be listed by a nationally recognized testing laboratory.

13.4 Where metallic faceplates are used they shall be effectively grounded.

14. Conductors in Outlet Boxes

14.1 Each wire in an outlet box should be spaced as indicated below. Grounding wires, fixtures splicing wires, and conductors that do not leave the box are not counted.

No. 14 AWG — 2 cu in. per wire

No. 12 AWG — 2.25 cu in. per wire

No. 10 AWG — 2.50 cu in. per wire

No. 8 AWG — 3.0 cu in. per wire

NOTE: Where there is not sufficient space for a deeper box, four No. 14 AWG conductors may enter a box with or without cable clamps and containing one or more devices on a single mounting strap.

14.2 Wiring leads in the outlet boxes shall extend at least 4 inches from the wall surface.

15. Painting of Wiring

15.1 During painting or staining of the mobile home, it is acceptable to paint metal raceways (except where grounding continuity would be reduced) or the sheath of the nonmetallic cable. Some arrangement, however, must be made so that no paint is applied to the individual wires, as the color coding may be obliterated by the paint.

16. Polarization

16.1 The identified (white) conductor shall be employed for grounded circuit conductors only and shall be connected to the identified (white) terminal or lead on receptacle outlets and fixtures. It shall be the unswitched wire in switched circuits, except that a cable containing an identified conductor (white) may be used for single-pole three-way or four-way switch loops where

the connections are made so that the *unidentified* conductor is the return conductor from the switch to the outlet. Painting of the terminal end of the wire is not required.

16.2 If the identified (white) conductor of a cable is used for other than grounded conductors or for other than switch loops as explained above (for a 230-volt circuit, for example), the conductor shall be finished in a color other than white at each outlet where the conductors are visible and accessible.

16.3 Green-colored wires or green with yellow stripe shall be used for grounding conductors only.

17. Connection to Terminals and Splices

17.1 Connection of conductors to terminal parts shall ensure a thoroughly good connection without damaging the conductors and shall be made by means of pressure connectors (including set screw type), solder lugs, or splices to flexible leads. No. 8 or smaller solid conductors and No. 10 or smaller stranded conductors may be connected by means of clamps or screws with terminal plates having upturned lugs, or by means of approved screwless terminals. Terminals for more than one conductor shall be of a type approved for the purpose.

17.2 Conductors shall be spliced or joined with splicing devices approved for the use or by brazing, welding or soldering with a fusible metal or alloy. Soldered splices shall first be so spliced or joined as to be mechanically and electrically secure without solder and then soldered. All splices and joints and the free ends of conductors shall be covered with an insulation equivalent to that of the conductors.

17.3 If splices of the grounding wire in nonmetallic sheathed cable are made in outlet boxes, the splice should be insulated to prevent contact with terminals.

18. Wall Switches

18.1 Switches shall be rated as follows:

(a) For lighting circuits, switches shall be rated not less than 10 amperes — 125 volts and in no case less than the connected load.

(b) For motors or other loads, switches shall have ampere or horsepower ratings or both adequate for loads controlled. (An

"ac general use" snap switch may control a motor 2 horsepower or less with full-load current not over 80 percent of the switch ampere rating.)

19. Receptacle Outlets

19.1 Receptacle Outlets. All receptacle outlets:

- (a) shall be of grounding type;
- (b) shall be installed in accordance with Section 210-7 of the National Electrical Code (USAS C1-1968), and,
- (c) except when supplying specific appliances, receptacles shall be parallel blade, 15-ampere, 125-volt, either single or multiple face type.

20. Lighting Fixtures

20.1 General

20.1.1 Any combustible wall or ceiling finish exposed between the edge of a fixture, canopy, or pan and an outlet box shall be covered with noncombustible material.

20.1.2 Listed pendant-type fixtures or pendant cords may be installed in mobile homes.

20.2 Recessed Lighting Fixtures

20.2.1 Conductors having insulation suitable for the temperature encountered shall be used.

20.2.2 Fixtures having branch-circuit terminal connections that operate at temperatures higher than 60 C (140 F) shall have circuit conductors as described in 20.2.3 and 20.2.4.

20.2.3 Branch-circuit conductors having an insulation suitable for the temperature encountered may be run directly to the fixture.

20.2.4 Tap connection conductors having an insulation suitable for the temperature encountered shall be run from the fixture terminal connection to an outlet box placed at least 1 foot from the fixture. Such a tap shall extend for at least 4 feet but not more than 6 feet and shall be in a suitable metal raceway.

20.3 Fluorescent Lighting Fixtures. When fluorescent lamp fixtures require high-temperature wire, the requirements of 20.2 shall apply.

20.4 Shower Fixtures

20.4.1 If a lighting fixture is provided over a bathtub or in a shower stall, it shall be of the approved enclosed and gasketed type.

20.4.2 The switch for shower lighting fixtures and exhaust fans, located over a tub or in a shower stall, shall be located outside the tub or shower space.

21. Wiring of Expandable Units and Dual Units

21.1 Expandable or dual unit mobile homes utilizing permanently installed feeder conductors may use permanent type wiring methods and materials for connecting such units to each other.

21.2 Expandable or dual unit mobile homes not having permanently installed feeder conductors which are to be moved from one location to another, may have disconnecting means with branch circuit protective equipment in each unit when so located that after assembly or joining together of units the requirements of Par. 10.10 will be met.

21.3 Expandable or dual unit mobile homes which are to be moved from one location to another, may be connected together with cord connections using approved raintight power supply connectors or approved power supply connectors installed in protected locations. All cords used shall be approved for extra hard usage in accordance with the National Electrical Code (USAS C1-1968). Cord length shall be kept at a minimum, with outlet boxes on each unit located where circuit conductors terminate; such outlet boxes to be adjacent to each other as near as practical after units are joined together.

22. Outdoor Outlets, Fixtures, Air-Cooling Equipment, Etc.

22.1 Outdoor fixtures and equipments shall be recognized for outdoor use. Outdoor receptacle or convenience outlets shall be of a gasketed-cover type.

22.2 A mobile home provided with a receptacle outlet designed to energize heating and/or air conditioning equipment located outside the mobile home, shall have permanently affixed adjacent to the outlet receptacle, a metal tag which reads:

**This Connection is for Air Conditioning
Equipment Rated at Not More Than
.....Volts A.C., at.....amperes.**

The correct voltage and ampere ratings shall be given. The tag shall be not less than 0.020 inch, etched brass, stainless steel, anodized or alclad aluminum. The tag shall not be less than 3 inches by 1¾ inches minimum size.

23. Grounding

23.1 Service Grounding. Service grounding shall be accomplished as follows:

23.1.1 The green-colored grounding wire in the supply cord or permanent feeder wiring shall be connected to the grounding bus in the distribution panel or disconnecting means.

23.1.2 A grounding wire shall be connected between distribution panel grounding terminal and a terminal on the chassis. Grounding terminals shall be of the solderless type and listed as pressure terminal connectors recognized for the wire size employed.

23.1.3 The chassis shall be grounded. The grounding conductor may be solid or stranded, insulated or bare, and shall be an armored grounding conductor or routed in conduit if No. 8 AWG. The conductor, if No. 6 AWG or larger, may be run without metal covering.

23.1.4 The grounding conductor shall be routed so as not to be exposed to damage. Protection can be afforded by the configuration of the chassis.

23.1.5 The distribution panel shall have a grounding bus, or approved grounding means for the various grounding connections.

23.1.6 The grounding bus shall have sufficient terminals for all grounding conductors.

23.2 Insulated Neutral

23.2.1 The grounded circuit conductor (neutral) shall be insulated from the grounding conductors and from equipment enclosures and other grounded parts. The grounded (neutral) circuit terminals in the distribution panel and in ranges, clothes dryers, counter-mounted cooking units, and wall-mounted ovens are to be insulated from the equipment enclosure. Bonding screws, straps, or buses in the distribution panel or in appliances are to be removed and discarded.

23.2.2 Connection of ranges and clothes dryers utilizing a grounded (neutral) conductor shall be made with 4 conductor

vice fed from the box will not interfere with or interrupt the grounding continuity.

23.3.4 Cord-connected appliances, such as washing machines, clothes dryers, refrigerators, and the electrical system of gas ranges, etc., shall be grounded by means of an approved cord with grounding conductor and grounding type plug.

23.4 Grounding of Noncurrent-Carrying Metal Parts

23.4.1 All major exposed metal parts that may become energized, including the water, gas, and waste plumbing, the roof and outer metallic covering, the chassis and metallic circulating air ducts, shall be effectively bonded to the grounding terminal or enclosure of the distribution panel or to the metal chassis. See Paragraph 23.1.2 for bonding of the chassis to the distribution panel grounding terminal.

23.4.2 The metallic roof and exterior covering are considered grounded if:

(a) The metal panels overlap one another and are securely attached to the wood or metal frame parts by metallic fastener, and

(b) The lower panel of the metallic exterior covering is secured by metallic fasteners at each cross member of the chassis, or the lower panel is bonded to the chassis by a metal strap.

23.4.3 The gas, water, and waste pipes are considered grounded if they are bonded to the chassis. If wire is used, grounding clamps, No. 8 AWG, minimum, armored grounding cable, and solderless connectors shall be used. Alternatively, suitable grounding straps may be used.

23.4.4 The furnace and metallic circulating air ducts shall be grounded.

24. Electrical Testing

24.1 Dielectric Strength Test. The wiring of each mobile home shall be subjected to a 1-minute, 900-volt dielectric strength test (with all switches closed) between live parts (including neutrals) and the mobile home ground. Alternatively, the test may be performed at 1,088 volts for 1 second. This test shall be performed after branch circuits are complete and after fixtures or appliances are installed. Listed fixtures and permanently installed appliances shall not be required to withstand the dielectric test.

24.2 Examination of Equipment for Safety. The examination or inspection of equipment for safety, according to the recommendations contained in this standard, should be conducted under uniform conditions and by organizations properly equipped and qualified for experimental testing, inspections of the run of goods at factories, and service-value determinations through field examinations.

25. Electrical Marking

25.1 The main circuit breakers or fuses shall be plainly marked "Main." Marking of branch-circuit breakers or fuses is optional.

25.2 If a fused distribution panel is used, the maximum fuse size for the mains shall be plainly marked as follows, with lettering at least $\frac{1}{4}$ inch high where visible when fuses are changed: "Maximum Main Fuses 40 (or 50) amp."

25.3 A metal nameplate on the outside adjacent to the supply cord entrance shall read, "This Mobile Home is Wired for 115/230 Volt, 3-Wire, 60 Cycle Supply, Supply Cord 40 (or 50) amp." The voltage marking may read 120/240 Volts instead of 115/230 Volts.

**This Mobile Home Is Wired for 115/230
3-Pole, 4-Wire, 60 Cycle Supply.
Supply Cord 40* Amperes**

*Or 50.

Tentative Interim Amendment No. 1-1968**Effective Sept. 30, 1968****Standard for Mobile Homes****NFPA No. 501B-1968****USA Standard A119.1-1969****Part IV -- Electrical Systems**

1. *Revise Paragraph 10.7 to insert the 36½-foot figure for the 26½-foot figure to agree with Tentative Interim Amendment No. 148 of the 1968 National Electrical Code, the revised text to read:*

10.7 The overall length of the power-supply assembly, measured from the end of the cord, including bared leads, to the face of the attachment-plug cap shall be no less than 21 feet and shall not exceed 36½ feet. The length of the cord from the face of the attachment-plug cap to the point where the outer jacket of the cord is removed shall be at least 20½ feet.

2. *Revise the first and second sentences of Paragraph 10.10 to read:*

10.10 Where a separately metered appliance is installed in the mobile home or where the calculated load of the mobile home is between 50 amperes and 150 amperes, up to three 50 ampere power-supply assemblies may be installed or a service as provided for in 10.1 and 10.11. Additional power-supply assemblies shall be located not more than 12 inches away from the point of entrance of the main power-supply assembly.

3. *Revise the figure in Paragraph 10.11 (first line) to read "150 amperes" instead of "100 amperes."*

HB-448

RECEIVED

JAN 12 1971

Hahn, Jewell & Farrell



To Promote the Efficient Administration of Justice

JUDICATURE

DECEMBER 1970 VOLUME 54 NUMBER 5



The Journal of The American Judicature Society



<i>President's Page</i>	180	Judicial Compensation
<i>Editorial</i>	182	Minimum Standards of Judicial Compensation
	184	Judicial Salaries and Retirement Plans in the United States
	189	Current Provisions for Judicial Salaries and Retirement Plans
	195	Rank Order of Salaries, Population, and Per Capita Income
	201	Judicial Salaries in Appellate and Trial Courts
	209	Judicial Salaries in Selected Courts of Limited Jurisdiction
	214	Calendar
	215	News

JUDICATURE

The Journal of The American Judicature Society

Volume 54 / Number 5 / December, 1970

PUBLICATIONS STAFF

Glenn R. Winters, *Editor*
 Willis R. Tribler, *Associate Editor*
 Tiina Asperk, *Editorial Assistant*
 Joseph J. Connell, Jr., *Research Assistant*
 Richard A. Hanson, *Research Assistant*

EDITORIAL ADVISORY BOARD

<i>Ruggiero J. Aldisert</i>	<i>Sarel M. Kandell</i>
<i>Gordon W. Allison</i>	<i>Ralph N. Kleps</i>
<i>William Braithwaite</i>	<i>Norval Morris</i>
<i>Christopher F. Edley</i>	<i>Dallin H. Oaks</i>
<i>William S. Fort</i>	<i>John Ritchie</i>
<i>Gilbert Helwig</i>	<i>Eugene A. Wright</i>
<i>Howard James</i>	

Judicial Compensation



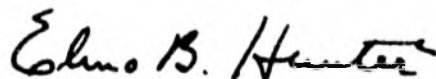
The problem of obtaining and retaining those who are best qualified for judicial service is inescapably directly affected by the compensation provided for judicial service. Successful lawyers provide the source that must be looked to in obtaining judges. To attract these men to seek judicial office it is necessary to provide an attractive salary and reasonable retirement benefits. Failure to compete in this respect with the marketplace will deprive the judiciary of many whose talents are needed in a time of rapidly increasing complexity of contemporary life and increasing rapidity of social change. Even those states operating under merit plan of judicial selection are hampered in the obtaining of highly qualified judges if the salaries and retirement provisions are inadequate. No matter how inviting the judicial position may otherwise be, failure to provide appropriate and competitive pay demonstrably narrows the class available for judicial office.

The American Judicature Society's biannual publication of *Judicial Salaries and Retirement Plans* of the fifty states provides an accurate and current source of information, and comparison data on the subject. A careful study of this data indicates that a substantial number of states are not providing adequate salaries and other benefits in the light of present day needs.

The salary and retirement study presented on the following pages does not include direct reference to the substantial increase in cost of living that has occurred and continues to occur. However, all of us are aware of this cost of living increase and what has happened to the value of the dollar. It is generally recognized that salaries that at one time have been considered

attractive may no longer be so thought of in view of the current economics of the marketplace.

The judiciary is one of the three branches of our government. The judges are the judiciary. The cost to the taxpayer of maintaining the judiciary in nearly all, if not in all, of our fifty states is less than three percent of the cost of all three branches of government. The cost of the federal judiciary as noted by Chief Justice Burger in his recent address on the state of the judiciary is less than the cost of one C-5A airplane. Yet the most difficult of our modern day problems as well as extremely heavy and increasing caseloads fall upon the judiciary. In a free society such as ours these social and economic upheavals tend to wind up on the doorstep of the courts. This is not the time to be penurious in an area that can lead to a deterioration of our third branch of government. It is in the public interest to provide judicial compensation and retirement benefits clearly adequate to obtain and retain an outstanding judiciary.

A handwritten signature in cursive script that reads "Elmo B. Hunter". The signature is written in dark ink and is centered on the page.

President

Minimum Standards of Judicial Compensation

The American Judicature Society's first comprehensive judicial compensation survey was published in the April, 1945, issue of this Journal, just 25 years ago. Some comparisons between salaries there tabulated and those here listed for 1970 and 1971 are interesting and instructive.

In 1945 salaries of state supreme court justices ranged from \$5,000 in Idaho, Kentucky, and Utah to \$25,000 in New York. Nine states paid the judges of their highest courts less than \$7,000 a year; 21 paid from \$7,000 to \$9,000; and six paid \$9,000 to \$10,000; making 36 states paying \$10,000 a year, or less.

Trial judges' salaries ranged from as low as \$2,000 in some parts of Colorado, and \$3,000 in some courts in Kentucky and Ohio, to \$25,000 in New York. There were 15 states paying general trial court judges less than \$5,000 a year, and a total of 34 paying \$7,000 a year or less.

In 1945 federal district judges received \$10,000, court of appeals judges \$12,000, and United States Supreme Court justices \$20,000. The highest judicial salary in the country was the \$28,500 paid to the presiding justice of the Appellate Division of the Supreme Court of New York.

These figures are now of only historical interest. In 1945 the Office of Price Administration was fighting wartime inflation and it was considered unpatriotic to raise any price or wage just because others were going up, since that would only add to the inflation spiral. Even then, however, judicial salaries were exempt from OPA controls and it was recognized that the need for quality judicial service justified the massive nationwide program of judicial salary increases detailed in that same issue.

The upward march of prices during the intervening quarter century has necessitated continued pressure to keep judicial salaries in step. There never has been, and never will be, a nation-wide judges' strike like those which from time to time have been staged by automobile, steel, railroad, and other workers. Campaigning for salary increases is embarrassing to judges and inconsistent with judicial dignity, and ought not to be necessary.

In 1961 the American Judicature Society pledged itself to a continuing crusade for adequate judicial compensation of which its regular biennial salary and retirement surveys are a part. The Society's then president, Cecil E. Burney, declared that on the basis of price levels prevailing at that time no judge of a general trial court anywhere in the United States should be paid less than \$15,000 a year. Five years later there had been a general increase of 10 per cent in the price index, leading to announcement of a minimum of \$16,600 on the same basis. This was upped again to \$17,000 in 1968, and now, in 1970, we assert, for the same reasons, that no judge of a general trial court in this country should be paid less than \$19,000 a year. We note also that the considerations are not greatly different for the more numerous and very important judges of courts of limited and special jurisdiction.

There have been similar trends with respect to retirement compensation, which was also covered in the 1945 survey and will always be an inseparable part of the judicial compensation picture. We commend these tables to legislatures and fiscal authorities in all states, recalling from the introduction to the 1945 survey the remark that:

“money has power, and the amount of money spent on judicial salaries does make a difference to the people in the judicial service they get.”

JUDICIAL SALARIES AND RETIREMENT PLANS IN THE UNITED STATES

Adequate judicial compensation means both justice for judges and justice for litigants.

Judicial salaries in the United States have traditionally been inadequate. It is only in the past few years that compensation has even approached a level which would attract the best men to the bench without great sacrifice. What follows is our 1970 report of the status of this important area.

APPELLATE COURT SALARIES

Since the American Judicature Society's last judicial salary survey in 1968, 33 states and Puerto Rico have raised the salaries of judges of courts of last resort. These increases have varied from \$1,500 in New Mexico to \$14,000 (\$15,500 for the Chief Justice) in New Jersey. Over 80% of the raises were between \$2,000 and \$5,000. Besides New Jersey, other significant raises were realized in Louisiana (\$10,000) and Delaware (\$9,500). This activity has increased the average supreme court salary by 12%, to \$27,660, which is more than double the 1952 average. The median supreme court salary has also risen since the last survey to \$26,000.

However, salaries of supreme court justices are lagging slightly behind gubernatorial salaries. The median salary for governors is \$27,500, and their average salary of \$29,596 is nearly \$2,000 more than justices receive. As of the last survey, nine states were paying justices less than \$20,000 per year. Today there are only two. The present maximums and minimums are as follows:

Highest Salaries	
New Jersey	\$45,000
California	42,747
New York	42,000
Lowest Salaries	
Mississippi, Wyoming	19,000
Maine, North Dakota, Utah	20,000

The national average has also been increas-

ing at the intermediate appellate court level. In 1967 it was \$27,118, and today the average is \$28,625. This however represents only a 5% increase over the 1968 survey whereas that showed a 12% increase over its immediate predecessor. Since the last survey, 12 states have increased intermediate appellate salaries. Eleven of these were in amounts between \$1,000 and \$5,000. Substantial increases were realized in Louisiana (\$11,000) and New Jersey (\$15,000). Colorado, Oklahoma, Oregon, and Washington established new intermediate appellate courts with salaries of \$22,500, \$19,500, \$25,000, and \$25,000 respectively.

Twenty three states now have intermediate appellate courts. The present maximum and minimum salaries are:

Highest Salaries	
New York	\$42,100
(1st and 2nd Departments)	
New Jersey	42,000
California	40,016
Lowest Salaries	
Oklahoma	19,500
Tennessee	20,000
New Mexico	21,000

TRIAL COURT SALARIES

The same positive trend is evidenced at the general trial court level. Thirty-seven states and Puerto Rico increased the salaries of their trial judges. This has boosted trial court salaries 11.8% to \$23,345 since the last survey. In 1952, 32 states paid less than \$10,000. Today, no state pays trial judges less than \$15,000 and in only 18 states and Puerto Rico can a judge earn less than \$20,000. In three jurisdictions, New Jersey and the First and Second Departments of New York, trial judges earn more than \$35,000. In eight jurisdictions, Cal-

ifornia, Delaware, Hawaii, Maryland, Massachusetts, South Carolina, and the Third and Fourth Departments of New York, a trial judge earns between \$30,000 and \$35,000 per year. The national median has also increased by \$1,250 to \$22,250 since the last survey. The maximums and minimums are as follows:

Highest Salaries	
New York	\$39,100 (First and Second Departments)
New Jersey	37,000
California	33,396
Lowest Salaries	
Mississippi	16,000
Oklahoma, Utah, Tennessee	17,500
North Dakota	18,000

SALARIES IN OTHER COURTS

While it is beyond the scope of this article to detail salary changes in minor, special, and limited courts, some highlights are worthy of mention. Thirty-one states report salary increases in their courts of limited and special jurisdiction, ranging up to \$9,000. Approximately 80% of the raises were between \$500 and \$4,000.

The most significant raises were realized in Delaware, where judges of the Family and Common Pleas Courts received raises of \$6,000 to \$27,000, and in Maryland where the People's Court judges of the City of Baltimore received an increase of \$6,500, bringing their salary to \$25,000. A salary increase of \$8,670 brought the District Magistrates of Hawaii to \$23,670. County, District, and Juvenile Court judges of New Jersey are now paid \$34,000, a raise of \$9,000. In Rhode Island, District Court judges are now paid \$20,000 (\$21,000 for the chief judge) whereas previously they were paid anywhere from \$4,797 to \$10,933.

The maximums and minimums of some representative minor courts are as follows:

Highest Salaries	
New Jersey	
County District Court	\$34,000
California	
Municipal Court	30,724
New York	
County Court	25,000-30,000
Civil and Criminal Courts of New York City	30,000
Lowest Salaries	
Tennessee	
General Sessions Court	1,800-11,800
Arkansas	
Common Pleas Court	3,100-5,900
Utah	
City Court	5,000-10,500
Alabama	
Inferior Courts	6,000-10,000

JUDICIAL RETIREMENT

Since the Society's last biennial survey, 17 states have reported changes in their retirement legislation. Two, Maryland and Nebraska, have provided alternative plans to those now in effect. Maryland has provided a contributory pension plan effective July 1, 1969. Judges appointed after July 1, 1969, must participate, and other judges previously on the bench may join. It provides benefits equal to 1/16 of 60% of the maximum salary for each year of service up to 16 years. It is applicable to all trial and appellate judges.

The new Nebraska plan, designated the future member plan, covers all judges taking office after December 25, 1969, and those judges covered under the original plan who elected to join prior to June 30, 1970. The monthly allowance under this plan is equal to 1/12 of

2½% of the total salary earned by the judge for his judicial duties between the time he started making contributions and his retirement. The judge's contribution under this plan is 6%.

An Arkansas judge may now retire at any age after 20 years service. Maine added a provision for retirement at 65 after 12 years service. Minnesota now permits District Court judges with 25 years service to retire at age 65, and Texas has reduced its eligibility requirement for retirement from 16 to 12 years. Oregon now covers its new Court of Appeals and its Tax Court and has made the plan optional for District Court judges. Washington, Oklahoma, and Colorado have brought their new appellate courts under their retirement plans, and Rhode Island has combined its District Court retirement program with that of its other courts.

Benefits have been increased in Alabama to \$9,600 per year for Circuit Court judges while Indiana has increased its ceiling on retirement benefits from \$4,800 to \$10,000. Ohio has changed its plan so that benefits may be as high as 85% of the judges' final average salary. Oregon, instead of setting a figure, now gives 45% of the average salary for the highest five of the last ten years. Maine now gives the retiring judge ¾ of the currently effective salary of his office.

Judges' contributions to retirement funds have been increased in four states. Illinois judges now contribute 10% of their salary; Mississippi, 4½%; Ohio, to 7.7%; and Wisconsin, 2% of their monthly salary and 4½% on any earnings in excess of the amount specified as subject to social security withholding. North Carolina has accorded the judges of its Superior Court the same disability benefits as its appellate judges.

Changes were made in death benefits in five states. Colorado has reduced from five to three

years the service required of a judge for his widow to be eligible for benefits. Maine has followed the modern and preferred practice by changing the widow's benefit from ¾ of the compensation at the time of her husband's death to ¾ of the current compensation for the judicial office that he held at the time of his death. Oregon now gives a judge's widow a percentage of a basic amount determined by his length of service. In South Dakota, a judge may now assign ½ of his retirement pay to his wife, the annuity commencing upon his retirement or death in office and continuing until her death or remarriage. Washington has reduced the required time that the judge and his widow were married from ten to three years.

MINIMUM STANDARDS

Three minimum standards recommended and commented upon in the American Judicature Society's last survey and included in the Model Judicial Article (June, 1963, *JUDICATURE* p. 11) provide a partial guide in evaluating current retirement plans.

These standards require that each plan provide a pension of at least 50% of salary for judges who retire after at least 10 years of service in addition to disability and death benefits.

Alabama, Colorado, Delaware, Mississippi, Missouri, Oregon, and Wyoming still have a minimum retirement figure below this recommended minimum. Arkansas, Indiana, Iowa, Michigan, Minnesota, New Hampshire, New Mexico, North Dakota, South Dakota, Texas, and Utah pay the bare minimum of 50%. Two-thirds of salary is allowed by six states: Arizona, Connecticut, Georgia, Nevada, North Carolina, and South Carolina. Fourteen jurisdictions pay as much as 75%; they are Alaska, California, Hawaii, Idaho, Illinois, Maine, Massachusetts, New Jersey, Oklahoma, Rhode

Island, Tennessee, Virginia, Washington, West Virginia, and Puerto Rico. Pennsylvania and Ohio give benefits of up to 85% of salary and the allowance in New York and Wisconsin is determined by actuarial rules. In Florida and Vermont, benefits may reach as high as full salary but only after 30 years service. The same applies in Kentucky and Louisiana with the service requirement being 20 years.

All states except Rhode Island and Wyoming provide disability benefits, but in Georgia and Nevada such benefits are available only through the public employees retirement system. Alabama, Missouri, North Carolina, Oklahoma, Rhode Island and Wyoming allow no widow's benefits, and Georgia has no benefits for widows of appellate judges. In addition, in 15 states the widow's benefits consist either of a refund of contributions or an optional annuity whereby the judge takes a lower pension to provide for his wife.

BENEFITS FOR JUDGES

Hospitalization. All reporting jurisdictions except Kentucky, Montana, Nebraska, North Carolina, and West Virginia have some type of hospital plan, but they vary considerably. In 14 states the judge pays the whole premium, and in 19 states the premium is shared by the state and the judge. In Connecticut the state pays ½ of the coverage for dependents, and Idaho is the only state which fully pays for family coverage.

Holidays. The number of official holidays varies from two in Arkansas and four in Virginia to fourteen in New Jersey and Tennessee and eighteen in Puerto Rico. Holidays in the federal courts generally correspond to those of the jurisdiction where the court is sitting.

Vacation. Seventeen states make the length of vacation subject to the discretion of the individual judge. The maximum vacations in the remaining jurisdictions average one month,

or 21 judicial days; this being the vacation time in 20 states. The shortest vacation was two weeks—the estimated vacation time of Oklahoma judges. The longest reported vacations were ten weeks in Massachusetts, nine weeks in Kentucky, and eight weeks in Mississippi. Only Iowa reported a vacation system based on length of service; one week after one year, two after two years, three weeks after ten and four after fifteen years. The federal system has a discretionary policy of vacations up to one month.

Expense Allowances and Travel Reimbursement. Appellate and general trial court judges are generally reimbursed for their actual travel expenses. This is true in 30 states, Puerto Rico, and the federal system, but 10 qualify this "actual expense" reimbursement policy. For example, in Alabama it applies to out of state travel, and in-state travel is limited to \$15 per diem. In Rhode Island, expenses are covered only for out-of-state conferences, and in the federal system the expense reimbursement may not exceed \$30. Sixteen states report per diems in effect for the judges of some or all of their courts. These figures varied from \$13 to \$30 with \$25 being the most common figure. The average mileage reimbursement was just under 10¢, the minimum being 7¢ and the maximum 12¢. Nine states reported expense allowances of specific amounts for one or more courts. By far the most generous were those provided by New York, where instead of expenses, allowances of from \$3,000 to \$7,000 are given to judges in some courts.

COMPENSATION OF COURT EMPLOYEES

Court Administrators. In 1955 the American Judicature Society reported that there were 16 such offices. The addition of four states—Florida, Maine, Oklahoma, and Pennsylvania—since the last survey brings the total of jur-

isdictions with full time court administrators to 34 states, the District of Columbia, the federal system, and Puerto Rico. Salaries range from \$11,550 in New Mexico to \$42,678 in New York with an average of \$22,091. Twelve states and the federal system have deputy court administrators.

Court Clerks. The salaries of supreme court clerks in the reporting jurisdictions range from \$3,000 in Maine to \$29,950 in New York. Seven states—Arkansas, Delaware, Iowa, Maine, Maryland, Oklahoma, and Wyoming—pay their clerks less than \$10,000 per year. California, Illinois, Massachusetts, Michigan, New Jersey, New York, Virginia, Washington, West Virginia, and the federal system pay over \$20,000.

Law Clerks. Ninety per cent of the supreme courts have law clerks. Those that do not are Maine, Missouri, Nebraska, Vermont, and Wyoming. There is a one-to-one ratio of judges to clerks on 25 state supreme courts. In four states—Indiana, Louisiana, New Jersey, and Oregon—the chief justices have two clerks and the other justices have one each. In California, four law clerks are assigned to each justice and the range in Alaska is three to one. Four states—Arizona, Illinois, New York, and Pennsylvania have a ratio of two to one. Eight states—Delaware, Kansas, Mississippi, Montana, New Hampshire, North Dakota, Ohio, and South Carolina—have less than a one-to-one ratio of law clerks to judges. The salaries range from \$5,000 in Mississippi to \$26,148 in California for the "principal attorney." Five states—Arkansas, Mississippi, Montana, Rhode Island, and Utah—pay less than \$7,000 while eleven states, Puerto Rico, and the federal system pay more than \$10,000.

Court Reporters. Salaries of supreme court reporters range from \$4,596 in South Carolina to \$28,814 in Michigan. Twelve jurisdictions—Alabama, California, Colorado, Georgia, Mich-

igan, Nebraska, New York, North Carolina, Oklahoma, South Dakota, Washington, and Puerto Rico—pay more than \$15,000 per year. The five states which pay less than \$10,000 are Arkansas, Missouri, Nevada, South Carolina, and Virginia.

Minimum Standards. Despite the major improvements in judicial compensation in recent years, there are still deficiencies. The following requirements should be met in every state:

1. A minimum salary of \$19,000 should be paid to all judges.
2. Retirement benefits should equal at least 50% of the current salary of the last office the judge held, and every retirement plan should include widow and disability benefits.
3. A state-wide court administrative staff should be established with a deputy administrator in every metropolitan court system in the nation.
4. Law clerks should be provided for all supreme court judges.
5. Private secretaries should be provided for all supreme court judges, and every judge should have a full or part-time secretary.
6. Every judge should have an allowance for office expenses, and should receive travel expenses for a wide range of state and national professional activities.
7. Hospitalization and medical-surgical insurance should be provided every judge and court employee, with all premiums paid by the state.
8. Every judge should have an annual vacation of at least one month.

(Editor's Note: This compilation could not have been completed without hours of demanding work by Joseph J. Connell, Jr., a research assistant and a senior student at the University of Chicago Law School. Mrs. Clarette Bein edited the draft and prepared the final printed text, and Mrs. Joyce Pope and Miss Tina Asperk assisted with the manuscript. The final product is the result of their efforts.)

CURRENT PROVISIONS

Following are the summaries of judicial compensation data for the 50 states, the federal system, and Puerto Rico, which have been verified by local authorities and from which the prefatory conclusions and the summary charts in this survey are drawn. Judicial salaries in the courts of each jurisdiction are then listed along with special notations of chief judge increments, local supplements, general bases for formula calculations, effective dates of changes which are not yet applicable, and explanatory notations where reliable figures could not be obtained.

The extent to which fringe benefits—hospitalization and medical-surgical insurance, vacation, holidays, expense allowances and travel reimbursements—are available to appellate and general trial court judges is then reported

for each state. Other reported benefits (e.g., life insurance coverage) are noted for a few jurisdictions. The fourth part of the summary data is a description of the retirement plans applicable to judges in each state. These are updated versions of the summaries of Alice Ann Winters in *Judicial Retirement Plans*, Chicago: The American Judicature Society, 1961.

The Society will be pleased to furnish or obtain additional information on any jurisdiction. Readers are invited to supplement the data presented and to report changes as they occur for inclusion in the addenda which will be published in the interim before the Society's next biennial survey. Inquiries or contributions of new information may be sent to the Society's offices at 1155 East 60th Street, Chicago, Illinois 60637.

ALABAMA

HIGHEST COURT

Supreme Court	
Chief Justice	\$22,500*
Associates	22,500*

INTERMEDIATE APPELLATE COURTS

Court of Criminal Appeals	22,000*
Court of Civil Appeals	22,000*

GENERAL TRIAL COURT

Circuit Court	
State Pay	18,000*
Local Supplements	up to 6,000

LIMITED AND SPECIAL COURTS

Recorder's Court	500 to 15,000
Inferior Courts	6,000 to 10,000
Probate Court	Fees
Justice of the Peace	Fees
County Courts (Probate Judge)	300 to 600
Juvenile Courts (Probate Judge)	—

BENEFITS

HOSPITALIZATION: Covered under State of Alabama Insurance Program.

VACATION: Court recessed from July to October; however, special sessions are held continuously.

HOLIDAYS: 12.

EXPENSE ALLOWANCE: Not more than \$15 per day in

state are reimbursed; outside state, actual and necessary expenses plus actual expenses for transportation.

RETIREMENT PROVISIONS

JUDGES COVERED: Supernumerary judgeship plan applies to: A. Supreme Court. B. Courts of Appeal. C. Circuit Courts.

AGE AND SERVICE REQUIREMENTS: A. 65 after 15 years of service, the last 12 of which are continuous. B. 65 after 15 years of continuous service. C. 65 after 15 years of continuous service in a Circuit Court, or 70 after 10 years of continuous service, or any age after 24 years of continuous service, or age 70 after 15 years of service as a judge in any court of record.

CONTRIBUTION: None.

RETIREMENT BENEFITS: A. \$7,200. B. \$7,200. C. \$9,600.

DEATH BENEFITS: No specific provision.

DISABILITY BENEFITS: A. and B. 50 with 15 years continuous service, same benefits as retirement. C. 60 with 15 years continuous service, same benefits as retirement.

SERVICE AFTER RETIREMENT: Can be called to hold court or perform other judicial duties.

RETIREMENT CITATIONS: Supreme Court, 1958 Re-compiled Code (Supp.1967) Tit. 13, §§ 31, 33, p. 159. Courts of Appeal: *id.*, Tit. 13, § 105 (2), (3) p. 167 (Supp. 1967).

Circuit Court: *id.* Tit. 13, § 195 (1), (2) p. 234 (Supp. 1967), § 195 (4) (Amend. 1969).

Alabama Constitution, Art. 4 § 98.

* effective January, 1971

ALASKA

HIGHEST COURT	
Supreme Court	
Chief Justice	\$30,000
Associates	28,000
GENERAL TRIAL COURT	
Superior Court	26,500
LIMITED AND SPECIAL COURTS	
District Court	
District Judges	19,000
Magistrates	(set by Supreme Court)
COURT ADMINISTRATOR	
Administrative Director of the Courts	26,500

BENEFITS

HOSPITALIZATION: Covers Supreme and Superior Court judges; premiums are shared by the state and the judge; authority for group plans given by statute.

VACATION: No set policy.

HOLIDAYS: 11 days.

EXPENSE ALLOWANCE: 12¢ a mile by private car and per diem travel allowance is \$21.

RETIREMENT PROVISIONS

JUDGES COVERED: Supreme, Superior, and District Judges.

AGE AND SERVICE REQUIREMENTS: 65 after 5 years of service; retirement may be at any age after 5 years with benefits deferred to age 65 except with 20 years of service actuarially reduced payments may begin at age 60; retirement mandatory at 70.

CONTRIBUTION: None.

RETIREMENT BENEFITS: 5% of salary of office per year of service to a maximum of 75% of the salary of the office.

DEATH BENEFITS: Widow receives ½ of benefits judge would have received until she remarries.

DISABILITY RETIREMENT: Regular retirement benefits paid after 2 years service to justices of the Supreme Court who are retired for incapacity by action of the governor and to other judges retired for incapacity by the Supreme Court. After 5 years of service a judge may request a disability retirement and be granted regular retirement benefits by the governor on recommendation of a three man commission.

JUDICIAL SERVICE AFTER RETIREMENT: Special assignments by court rule.

RETIREMENT CITATION: Alas. Stats., 1962, §§ 22-25.010 through 22.25.070.

ARIZONA

HIGHEST COURT	
Supreme Court	
Chief Justice	\$23,500
Associates	23,500
INTERMEDIATE APPELLATE COURT	
Court of Appeals	22,500
GENERAL TRIAL COURT	
Superior Court	21,500
Commissioners	up to 16,000
LIMITED AND SPECIAL COURTS	
Justice Courts	5,100 to 11,000
Police Courts	300 to 19,200
COURT ADMINISTRATORS	
Administrative Director of the Courts	14,500
Court Administrator, Maricopa County	16,307
Court Administrator, Pima County	10,700

BENEFITS

HOSPITALIZATION: Group policy is available to judges of Supreme Court, Court of Appeals, and Superior Court. Premium for individual and family coverage paid by the judge.

VACATION: By custom vacations of up to one month are taken by judges of the Supreme Court, Court of Appeals, and Superior Court.

HOLIDAYS: 12 days.

EXPENSE ALLOWANCE: 10¢ a mile for private car travel on official business and a subsistence allowance of \$20 per day in state and \$30 per day without the state.

RETIREMENT PLAN

JUDGES COVERED: Judges of Supreme Court, Court of Appeals, and Superior Court.

AGE AND SERVICE REQUIREMENTS: Minimum is 65 after 20 years service; a judge whose service is terminated before the minimum retirement age but after 12 years of service may receive deferred benefits at age 55.

CONTRIBUTION: 5% of salary.

RETIREMENT BENEFITS: ⅔ of salary at time of retirement; proportionate amount of current salary times years of service divided by 20 if years of service are between 12 and 20 to a maximum of ⅔ of current salary.

DEATH BENEFITS: ⅓ of retirement benefits to widow if 62 or married 10 years and if judge served a minimum of 12 years.

DISABILITY BENEFITS: Any age with 10 years service, ⅔ of salary; with 5 years service, ⅓ salary; between 5 and 10 years service a proportionate amount.

SERVICE AFTER RETIREMENT: Subject to call of the Supreme Court any retired judge may assist any of the three courts in all duties prior to final disposition.

CITATION: Ariz. Rev. Stats. 1956, Vol. 10, Tit. 38, Chapter 5, Art. 3 §§ 801 through 806, pp. 216-219, and 1969 Supp. pp. 60-62.

ARKANSAS

HIGHEST COURT	
Supreme Court	
Chief Justice	\$24,900
Associates	22,400
GENERAL TRIAL COURT	
Circuit Court	19,200
Chancery Court	19,200
LIMITED AND SPECIAL COURTS	
County Court	3,000 to 5,000
Common Pleas Court	100 to 900*
Municipal Court	2,400 to 15,000
Police Court	1,200 to 3,600
Mayor's Court	1,200 to 3,600
Justice of the Peace	**
COURT ADMINISTRATOR	
Executive Secretary of the Judicial Department	18,000

BENEFITS

HOSPITALIZATION: Judges covered by Workman's Compensation Insurance. In addition, many judges carry hospitalization at their own expense.

VACATION: Supreme Court recesses from first Monday in June until the first Monday in September; however, judges are on call during this time. Trial courts take approximately 4 weeks.

HOLIDAYS: Supreme Court has two (Christmas and New Year), trial court holidays set by local rule.

EXPENSE ALLOWANCE: Supreme Court has no specific allowance but the maintenance allowance is used for authorized travel and meetings. Trial judges have the option of actual expenses or an annual allowance of \$2,400. Mileage expense is 10¢ per mile.

* County Judge presides over Courts of Common Pleas; figures represent supplements.

** Recent Arkansas Supreme Court decision, *Doty v. Goodwin*, 246 Ark. 147 (1969), held conviction unconstitutional where fee of justice of the peace was dependent on conviction. Recent Arkansas Statute, 12-1731.1 (1969 Supp.), authorized quorum court to fix salaries of justices of the peace. Information on amount and numbers of justices on salary is presently unavailable.

RETIREMENT PLANS

JUDGES COVERED: A. Supreme, Circuit, and Chancery Court. B. Municipal and Police Court.

AGE AND SERVICE REQUIREMENTS: A. 65 after 15 years of service or any age after 20 years of service. B. Any age after 30 years of service or 70 after 10 years of service.

CONTRIBUTION: A. 4% of salary. B. None.

RETIREMENT BENEFITS: 50% of salary.

DEATH BENEFITS: 50% of retirement pay to widow (if she was married to judge at least five years prior to death) until she remarries, or to minor children if there is no widow. If both widow and minor children survive they each get half the death benefit.

DISABILITY RETIREMENT: A. Judge may retire for disability with a pension of ½ his last salary regardless of age or length of service if incapacitating illness occurs during term to which he was elected. B. 50% of last salary if incapacitating illness occurs during term to which he was elected.

SERVICE AFTER RETIREMENT: A. Chief Justice may recall any retired judge except those retired for disability for temporary service with the consent of the judge, who is paid the salary of the office without regard to recalled judges' retirement benefits. B. No specific provision.

CITATION: A. Ark. Stats. Ann. 1947, Tit. 22 §§ 22-901 through 22-909 (1969 Supp.) B. Tit. 22 §§ 22-739, 22-941 through 22-944.

CALIFORNIA

HIGHEST COURT

Supreme Court	
Chief Justice	\$45,418
Associates	42,747

INTERMEDIATE APPELLATE COURT

Court of Appeal	40,076
-----------------	--------

GENERAL TRIAL COURT

Superior Court	33,396
----------------	--------

LIMITED AND SPECIAL COURTS

Municipal Court	30,724
Justice Courts	900 to 21,000

COURT ADMINISTRATOR

Administrative Director of the Courts	38,510
Executive Officer, Los Angeles Superior Court	23,676- 29,484

BENEFITS

HOSPITALIZATION: Optional coverage available, premium payments are shared by judge and state. Family coverage available at extra charge to judge.

VACATION: 21 judicial days.

HOLIDAYS: 12 days plus every day in which there is an election in the trial court.

EXPENSE ALLOWANCE: Supreme and Court of Appeal judges allowed travel and per diem expenses when on court business. Superior Court judges allowed travel and per diem when assigned to another court. Reimbursement for travel expenses also provided for Municipal and Justice Court judges.

RETIREMENT PLANS

JUDGES COVERED: Supreme Court, Court of Appeal, Superior Courts, Municipal Courts.

AGE AND SERVICE REQUIREMENTS: 70 after 10 years of service within the preceding 15; 69 with 12, 68 with 14, 67 with 16, 66 with 18, or 65 with 20, all with maximum service interruptions of 4 years; 70 with 20 years service, the last five of which immediately precede retirement, or 60 after 20 years of service. Credit is granted for service in courts not included under the plan provided back contributions are paid and for service in the armed forces during war or national emergency.

CONTRIBUTION: 8% monthly salary deduction.

RETIREMENT BENEFITS: 50% of current salary if over 70; if less than 70, 65% of current salary; or with 20 years service 75%.

DEATH BENEFITS: If judge dies in active service while eligible for retirement or dies retired his widow receives 50% of his retirement allowance. If he dies in office with 10 years service but before he is eligible to retire his widow may receive 1.625% of current salary times years of service to a maximum of 3½% of current salary. This is contingent upon the judge paying \$2.00 per month to the retirement fund. If the judge dies before he is retired and is not survived by a widow his heirs may receive an amount up to ½ his salary.

DISABILITY BENEFITS: A judge retired for disability is entitled to the same allowances provided in case of retirement for age and service.

SERVICE AFTER RETIREMENT: May be assigned with his consent to any court equal or higher than that of one from which he retired. He is paid the difference between his retirement allowance and compensation of an active judge.

CITATION: West's Annotated California Codes, Government Code, Vol. 37A, Tit. 8, Chap. 11, §§ 75000 through 75109, pp. 3-38 and 1968-69 Cumulative Pocket Supp., pp. 5-11. Cal. Const., Art. VI §§ 18 and 20.

COLORADO

HIGHEST COURT

Supreme Court	
Chief Justice	\$25,000
Associates	24,500

INTERMEDIATE APPELLATE COURT

Court of Appeal	
Chief Judge	22,750
Associates	22,250

GENERAL TRIAL COURT

District Court	20,000
----------------	--------

LIMITED AND SPECIAL COURTS

Superior Court (Denver)	20,000
Probate Court (Denver)	20,000
Juvenile Court (Denver)	20,000
County Court	
Denver	17,500
Others	16,500- 17,500
Municipal Court	500 to 18,000

COURT ADMINISTRATOR

State Court Administrator	20,000
---------------------------	--------

BENEFITS

HOSPITALIZATION: All judges except Municipal judges may join a state plan which provides both basic and major medical benefits. The state pays \$6.75 per month toward the premium, the judge the rest.

VACATION: 30 days with some variation.

HOLIDAYS: 11 days.

EXPENSE ALLOWANCE: All judges except Municipal are reimbursed by state at rate of 10¢ per mile. Supreme and Court of Appeals judges receive actual and necessary expenses. District, Superior, Probate, Juvenile, and County judges receive expenses to a maximum of \$20 per day.

RETIREMENT PLANS

JUDGES COVERED: A. Supreme Court justices. B. All courts of record.

AGE AND SERVICE REQUIREMENTS: A. and B. Minimum age is 65 after 10 years of service.

CONTRIBUTION: 6% salary deduction plus \$5 fee upon entering the system.

RETIREMENT BENEFITS: A. \$5,000 a year at 65 after 10 years of service, \$6,000 at 72 after 20 years, and \$7,000 at 80 after 30 years. B. 50% of average highest

monthly salary of any 5 years service within the past 10 at age 65 with 16 or more years service or 60 with 20; 40% as above at 65 with 10 to 16 years service.

DEATH BENEFITS: A. \$5,000 maximum if widow is 65 and married at least 20 years. B. Optional annuities available to spread benefits to widow or designated heirs; widow of judge who dies in office and who has completed 3 years of service receives an annuity of 25% of average monthly salary for the 3 years immediately preceding his death.

DISABILITY RETIREMENT: A. No specific provision. B. Judges retired for disability may receive an allowance equal to retirement benefits he would have received had he completed his term of office.

SERVICE AFTER RETIREMENT: Chief Justice may assign any retired judge with his consent to perform judicial duties in any court. For each day's service he receives 1/2 the salary applicable.

CITATION: Courts of Record: Colo. Rev. Stats. 1963, Chap. 111, §§ 111-6-1 through 111-6-13. Supreme Court (other provisions): *id.*, Chap. 37, § 37-2-14, Colo. Const. Art. 6 § 31.

CONNECTICUT

HIGHEST COURT

Supreme Court
Chief Justice \$33,000
*Associates 29,000

GENERAL TRIAL COURT

Superior Court 27,500

LIMITED AND SPECIAL COURTS

Circuit Court
Chief Judge 23,500
Judges 21,500
Common Pleas Court 22,500
Juvenile Court 20,000
Probate Court fees up to 33,000

BENEFITS

HOSPITALIZATION: Group hospitalization, medical and surgical insurance is available to judges. State pays judges' premium and 1/2 of premium of judges' dependents.

VACATION: 1 month.

HOLIDAYS: 11 days.

EXPENSE ALLOWANCE: Judges of Supreme, Superior, Circuit, Common Pleas, and Juvenile Courts receive expenses. Mileage reimbursed at 10¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme, Superior, Common Pleas, Circuit, and Juvenile Courts.

AGE AND SERVICE REQUIREMENTS: Minimum is 65 after no minimum length of service or after 25 years of service with no age requirement. Retirement mandatory at 70.

CONTRIBUTION: 5% of salary for judges appointed after May 20, 1967; those appointed earlier make no contribution.

RETIREMENT BENEFITS: 2/3 of salary if judge served 10 years or retired at 70. If retirement occurs between ages 65 and 69 with less than 10 years of service the allowance is computed by dividing a fraction, the numerator of which is the number of years actually served and the denominator of which is the number 10 or the number of years the judge would have served had he not retired until age 70—whichever number is less, into 2/3 of his current salary.

* One of the justices is, upon nomination by the Governor, appointed Chief Court Administrator by the General Assembly at a salary of \$33,000.

DEATH BENEFITS: Widow receives 1/2 of the current salary of the office the judge held. If the judge is not survived by a widow the pension is payable to his children until they reach age 18.

DISABILITY RETIREMENT: Judges retired for disability receive full benefits.

SERVICE AFTER RETIREMENT: Retired judges of Supreme, Superior, and Common Pleas courts become state referees for life. Chief Justice appoints trial referees from state referees and they may enter judgment in cases referred to them by Superior and Common Pleas Courts. Compensation is \$50 per day.

CITATION: Gen. Stats. of Conn. Vol IX, Tit. 51 Chap. 872, §§ 51-49 through 51-51; Conn. Const. Art. 5 § 6.

DELAWARE

HIGHEST COURT

Supreme Court
Chief Justice \$34,500
Associates 34,000

GENERAL TRIAL COURTS

Superior Court and Orphan's Court
Presiding Judge 31,500
Associates 31,000
Court of Chancery
Chancellor 31,500
Vice Chancellors 31,000

LIMITED AND SPECIAL COURTS

Family Court 27,000
Municipal Court (Wilmington)
Full Time Judge 25,000
Part Time Judges 8,300
Common Pleas Court 27,000
Justices of the Peace 8,000

COURT ADMINISTRATOR

Deputy Administrator for Justices of the Peace. 17,000

BENEFITS

HOSPITALIZATION: Judges may participate in a voluntary Blue Cross Plan.

VACATION: Unspecified.

HOLIDAYS: 9 days.

EXPENSE ALLOWANCE: Mileage reimbursement at 10¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme, Superior, Chancery, and Orphan's Courts and all other full time judges of courts of record paid by the state.

AGE AND SERVICE REQUIREMENTS: 72 with 12 years service, any age with 24, or 65 with 12 if not reappointed to office.

CONTRIBUTION: 5% of that portion of judge's salaries below \$7,500.

RETIREMENT BENEFITS: 2% of highest average salary for any five consecutive years times his total number of years service.

DEATH BENEFITS: Widow receives 2/3 of pension payable to him until death or remarriage.

DISABILITY BENEFITS: Any age with no minimum service requirement, same as retirement benefits.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: Del. Code Ann., Vol. 12, Tit. 29, Chap. 56, §§ 5601 through 5610.

FLORIDA

HIGHEST COURT

Supreme Court \$34,000

INTERMEDIATE APPELLATE COURT

District Court of Appeals 31,200

GENERAL TRIAL COURT

Circuit Court 28,500

LIMITED AND SPECIAL COURTS

Court of Record of Escambia County..... 28,500

Criminal Courts of Record.....15,000 to 25,000

Courts of Record.....13,500 to 27,500

Civil Courts of Record.....20,000 and 25,000

Felony Court of Volusia County..... 20,000

County Judges Court (Probate).....11,000 to 28,500

County Courtnot provided

Juvenile Courts

Authorized by special act.....3,000 to 28,500

County Judges also serving

Juvenile Court—

Small Claims Courts.....fees to 15,000

Justice of the Peace.....fees to 11,500

Magistrate's Courts 21,600

COURT ADMINISTRATOR

Executive Director of the Judicial

Administrative Commission 15,405

BENEFITS**HOSPITALIZATION:** Group policies available with family coverage, premium paid by judge.**VACATION:** Discretionary.**HOLIDAYS:** 7 days plus those the State Personnel Board may designate.**EXPENSE ALLOWANCE:** Supreme and District judges receive per diem of \$25, Circuit judges get \$20; mileage reimbursement is 10¢ per mile.**RETIREMENT PLANS****JUDGES COVERED:** A. Judges of Supreme Court, District Court of Appeals, Circuit Courts, and Escambia County Court of Record. B. Public Employee's Retirement System applies to all other judges.**AGE AND SERVICE REQUIREMENTS:** A. 60 after 10 years of service or 55 after 10 with reduced benefits. For judges assuming office after July 1, 1963 it is age 65. B. 60 after 10 or 55 after 10 with reduced benefits. Mandatory retirement at age 70 for all judges of the state except those in office on November 1, 1956.**CONTRIBUTION:** A. 8% of salary. B. 6% of salary without social security coverage, 4% with social security.**RETIREMENT BENEFITS:** 3½% (or 5% for justices in office prior to July 1, 1957) of average salary (best 10 out of last 15 years) times years of service not to exceed final average salary. B. 2% (1½% with social security benefits) of average final compensation for each year of service.**DEATH BENEFITS:** A. Judge may accept reduced retirement benefits under one of several plans to provide benefits for designated heirs, any eligible judge is automatically construed to have selected the option which provides the widow with greatest benefits. B. Optional reduced annuities provide pension for surviving spouse.**DISABILITY BENEFITS:** A. Any age with 10 years of service the last 5 of which are continuous for voluntary retirement, benefits are not less than 25% of final salary. Judges retired involuntarily receive ¾ salary at time of retirement if more than 10 years of service or ½ salary if less than 10 years service with additional benefit in latter case of 3½% for each year of service. B. Any age with 10 years of service last 5 of which are continuous; minimum benefits are 50% of average final compensation, but do not apply if judge is 60 or receives social security disability benefits.**SERVICE AFTER RETIREMENT:** Any retired justice or judge may be assigned, with consent, to any court by Chief Justice, compensation equates difference between retirement benefits and salary of the office.**CITATION:** Florida Stats. 1967, Chapters 122 and 123, 1970-71 Cum. Pocket Supp. Const. Art. 5 §§ 2, 17, 19.**GEORGIA****HIGHEST COURT**

Supreme Court\$26,500

INTERMEDIATE APPELLATE COURT

Court of Appeals..... 26,500

GENERAL TRIAL COURT

Superior Court 24,800

Plus local supplements.....up to 14,000

LIMITED AND SPECIAL COURTS

City Courts4,600 to 15,000

County Civil and Criminal Courts

Bibb County 8,000

Baldwin and Gwinnet Counties..... 6,000

Cobb County 18,500

Coveta County 8,000

Clayton County 12,500

DeKalb County 14,000

Civil Court (Fulton County)

Chief Judge 23,000

Associates 22,500

Troup County 10,000

Municipal Court

Augusta

Chief Judge 11,200

Associates 9,700

Juvenile Court

Counties over 500,000..... 23,000

Justices of the PeaceFees

BENEFITS**HOSPITALIZATION:** Group policy available, premiums shared by judge and state.**VACATION:** Two weeks in general, maximum is four weeks.**HOLIDAYS:** 11 days.**EXPENSE ALLOWANCE:** No provisions for appellate courts, Superior Court allowances provided by local legislation.**RETIREMENT PLANS****JUDGES COVERED:** A. Supreme Court. B. Court of Appeals. C. Superior Court. D. Ordinaries (probate jurisdiction). E. Supreme Court and Court of Appeals judges elected after April 1, 1964 under State Employee's Retirement System.**AGE AND SERVICE REQUIREMENTS:** A. 70 with 10 years on appellate and trial courts of general jurisdiction, or 65 with 20 consecutive years service including service as solicitor or attorney general. B. 65 with 20 consecutive years service in state courts, or 70 with 10 consecutive years service on Court of Appeals or Supreme Court. C. 70 with 10 years service, or any age after 18 years service, at least 5 of which have been on Superior Court; service credits for military service and certain state offices. D. 65 with 4 years service, or any age with 20 years as an officer of the court with benefits deferred to age 65. E. 60 with 5 years creditable service, or any age with 30 years, or at 70 "forthwith."**CONTRIBUTION:** A. and B. None, C. 5% of salary, D. 5% of salary or net fees up to \$12,000, E. 5% of earnable salary.**RETIREMENT BENEFITS:** A. and B. ¾ current salary of office. C. ¾ current salary, if retiring at 70 after 10 years service benefits are ½ current salary. D. 10% of average monthly salary plus 2½% for each year of service over four years, not to exceed 20 years. E. Actuarial equivalent of contributions.**DEATH BENEFITS:** A. and B. No specific provisions. C. Contributions refunded to widow. D. Contributions refunded to estate. E. 15 years service, 75% of retirement allowance; 20 years service, same allowance as age 60; 25 years service, 75% of allowance payable at age 65; 30 years service same allowance as payable at age 65.

DISABILITY BENEFITS: A., B. and D. No specific provisions. C. 62 with 10 years service, ½ current salary of office. E. Same as death benefits.

SERVICE AFTER RETIREMENT: A. and B. Serves as member of advisory appellate council. C. Serve as *ex officio* members of judicial council and may be called to sit as emergency judge of Superior Court. D. No specific provision. E. None unless on bench before April 1, 1964.

CITATION: A. Code of Georgia Ann., Book 9 (1953 Revision), Tit. 24, §§ 4601 through 4613, pp. 487-489, 1969 Cumulative Pocket Supp. B. *id.*, §§ 3601A through 3609A, pp. 440-441. C. *id.*, §§ 2601A through 2620A, pp. 264-271. D. *id.*, §§ 1701A through 1716A, pp. 148-155. E. *id.*, Tit. 40, §§ 2501 through 2529, 1969 Cum. Pocket Supp.

HAWAII

HIGHEST COURT

Supreme Court	
Chief Justice	\$33,880
Associates	32,670

GENERAL TRIAL COURT

Circuit Court	30,250
---------------	--------

LIMITED COURT

*District Magistrates	23,670
-----------------------	--------

COURT ADMINISTRATOR

Administrative Director of the Courts	22,670
---------------------------------------	--------

BENEFITS

HOSPITALIZATION: Group policy with family coverage available; judge's premium shared with state, judge pays for family coverage. If judge retires and has had insurance for 2 years state pays entire cost of policy.

VACATION: 21 working days.

HOLIDAYS: 11 days.

EXPENSE ALLOWANCE: Chief Justice has a \$500 allowance. Per diem allowance is \$30 to \$40 for all judges. Mileage reimbursed at 12¢ per mile for the first 400 miles and 10¢ per mile thereafter.

RETIREMENT PLANS

JUDGES COVERED: Supreme and Circuit Court judges under Public Employee's Retirement System.

AGE AND SERVICE REQUIREMENTS: 55 with 5 years service or any age after 25 years creditable service. Retirement compulsory at 70. Credit given for state service.

CONTRIBUTION: 6.5% of salary.

RETIREMENT BENEFITS: Actuarial equivalent of 1/50 of average final salary times years of creditable service plus accumulated contributions plus 1/140 of average final compensation (highest 5 year average) times years of service if a member is 55. Maximum allowance is 75% of average final compensation, minimum is \$30 per month. If member is not yet 55, benefits are reduced.

DEATH BENEFITS: Non-occupational death, accumulated contributions plus, if completed one year of service, ½ salary for year preceding death, such amount increased by 5% for each full year of service in excess of 10 years. Occupational death, accumulated benefits plus pension of ½ average final compensation paid to widow.

DISABILITY BENEFITS: Non-occupational disability, retirement benefits are received if member has reached age of 55, otherwise benefits equal 25% of average final compensation plus 1% for each year of service over 15. Occupational disability, actuarial equivalent of accumulated contributions plus pension of ½ average final compensation.

SERVICE AFTER RETIREMENT: No specific provisions.

CITATION: Rev. Laws of Hawaii 1955, Vol. 1, Chap. 6 §§ 20 through 103, pp. 113-128; Laws 1957, Act 143, § 4, p. 128; 1965 Supplement to Laws Const. Art. 14 § 2.

* Part-time magistrates are paid \$5324 to 8652.

IDAHO

HIGHEST COURT

Supreme Court	\$25,000*
---------------	-----------

GENERAL TRIAL COURT

District Court	22,500*
----------------	---------

LIMITED AND SPECIAL COURTS

Probate Courts	1,500 to 12,000**
Justices of the Peace	set by Commissioners

COURT ADMINISTRATOR

State Court Administrator	14,500
---------------------------	--------

BENEFITS

HOSPITALIZATION: Group policies with family coverage available: all premiums paid by the state.

VACATION: No set policy, 2 to 4 weeks typical.

HOLIDAYS: 8 days.

EXPENSE ALLOWANCE: Supreme and District judges get actual travel expenses, mileage is reimbursed at 10¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: Supreme and District Court judges.

AGE AND SERVICE REQUIREMENTS: Minimum age is 65 after 8 years of service or any age after 20 years. Retirement mandatory at age 70 or at end of term in which age 70 is attained.

CONTRIBUTION: 4% of monthly salary.

RETIREMENT BENEFITS: 2½% times years of service up to 25 years of current compensation of the office.

DEATH BENEFITS: If judge dies before retirement, widow receives 20% of allowance judge would have received at 65; if judge dies after retirement widow receives 20% of his allowance.

DISABILITY BENEFITS: No minimum age and regular retirement benefits.

SERVICE AFTER RETIREMENT: Retired judge may act as Supreme Court commissioner at request of chief justice, any retired district judge on request by any district judge, with agreement of parties, may hear and determine civil actions.

CITATION: Idaho Code 1947, Vol. 2, Tit. 1, §§ 2001 through 2008.

* Judges receive an increment of 3% of their annual salary for each year of service up to a maximum of 10 years.

** Set by county commissioners.

ILLINOIS

HIGHEST COURT

Supreme Court	\$40,000
---------------	----------

INTERMEDIATE APPELLATE COURT

Appellate Court	37,500
-----------------	--------

GENERAL TRIAL COURT

Circuit Court	15,000 to 35,000
Judges	27,500
Cook County Supplement	7,500
Associate Judges	
State salary	25,000
Cook County Supplement	7,500
Magistrates	
Lawyer-Magistrates	18,500
Cook County Supplement	4,500
Non-Lawyer Magistrates*	15,000

COURT ADMINISTRATOR

Administrative Director	37,500
-------------------------	--------

* All magistrates in Cook County are lawyers.

**RANK ORDER OF SALARIES IN THE HIGHEST APPELLATE AND TRIAL COURTS,
AND OF POPULATION AND PER CAPITA INCOME**

GENERAL NOTE. Population and per capita income figures were taken from Department of Commerce publication, *Current Population Reports*, Series P-25, No. 436, and *Survey of Current Business*, August, 1970. Where a range of salaries is paid to trial court judges the average of the range was used to establish rank. In cases where more than one state paid the same salary, each of these states has been assigned the rank number of the last in the alphabetical listing of them.

State	JUDICIAL SALARIES		Per Capita Income Rank	Population Rank
	Highest Appellate Courts	General Trial Courts		
Alabama	42	34	49	21
Alaska	20	15	3	51
Arizona	39	30	29	34
Arkansas	43	43	50	32
California	2	4	6	1
Colorado	35	39	22	30
Connecticut	18	13	2	24
Delaware	11	6	10	47
Florida	11	11	25	9
Georgia	25	5	35	15
Hawaii	13	8	13	41
Idaho	33	26	41	42
Illinois	5	18	7	5
Indiana	35	32	17	12
Iowa	37	34	24	25
Kansas	39	35	26	29
Kentucky	28	42	44	23
Louisiana	7	14	46	19
Maine	49	42	36	38
Maryland	9	7	11	18
Massachusetts	12	10	9	10
Michigan	9	18	12	7
Minnesota	28	24	19	20
Mississippi	51	51	51	28
Missouri	25	30	28	14
Montana	45	44	34	44
Nebraska	33	24	21	35
Nevada	44	42	4	48
New Hampshire	23	16	27	43
New Jersey	1	2	8	8
New Mexico	42	39	42	37
New York	4	3	5	2
North Carolina	18	28	43	11
North Dakota	49	47	39	46
Ohio	15	36	16	6
Oklahoma	42	50	37	27
Oregon	28	21	23	31
Pennsylvania	7	12	18	3
Rhode Island	33	22	14	39
South Carolina	15	10	47	26
South Dakota	46	46	38	45
Tennessee	37	50	45	17
Texas	18	21	32	4
Utah	49	50	40	36
Vermont	33	28	33	49
Virginia	33	39	31	13
Washington	23	26	15	22
West Virginia	23	32	48	33
Wisconsin	20	19	20	16
Wyoming	51	46	30	50
District of Columbia	3	1	1	40

BENEFITS

HOSPITALIZATION: Blue Cross and Blue Shield policies with optional family coverage available. State pays first \$5.00 on judge's monthly premium, judge pays the rest and all family coverage.

VACATION: Discretionary except by practice Cook County Circuit judges have 5 weeks, associates 4 weeks and magistrates 3 weeks.

HOLIDAYS: 11 days.

EXPENSE ALLOWANCE: Actual expenses of court business and official travel are paid to Supreme and Appellate Court judges. Circuit judges, associates, and magistrates are reimbursed for in-circuit travel, hotel, and meals at a per diem of \$10 in Cook County and \$7.50 elsewhere. Car mileage is reimbursed at 12¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: Open to all judges of courts of record and the court of claims.

AGE AND SERVICE REQUIREMENTS: Minimum age is 60 after 10 years of service.

CONTRIBUTION: 10% of salary annually; married judges contribute 2½% of income to cover widow's pension.

RETIREMENT BENEFITS: 2½% for each year of the first 10 years plus 5% for each year over 10 years to a maximum of 75% of average salary of the last 4 years before retirement. Judges who joined prior to July 1, 1967 can elect to remain under prior 50% or 60% maximum.

DEATH BENEFITS: If judge dies after retirement, widow receives ½ of pension. If he served 10 years, widow receives ¾ pension he would have received or 7½% of salary, whichever is greater. If widow has minor children the benefit is the greater of 75% of pension or 15% of his salary. With minor children benefits are paid no matter what the widow's age, otherwise when she reaches 55.

DISABILITY RETIREMENT: Judge may be retired after 10 years service with full retirement benefits for disability.

SERVICE AFTER RETIREMENT: Retired judges may be assigned with their consent and are paid applicable salary.

CITATION: Smith-Hurd, III. Ann. Stats., "Pensions" Chap. 108½, §§ 18-101 to 18-166. Ill. Const. Art. 6 § 18.

INDIANA

HIGHEST COURT	
Supreme Court	\$24,500
INTERMEDIATE APPELLATE COURT	
Appellate Court	24,500
GENERAL TRIAL COURT	
Circuit and Superior Court	19,000- 23,500
(Based on population and property valuation)	
Optional County Supplement	up to 4,000
LIMITED AND SPECIAL COURTS	
Probate Court	12,000- 22,000
Criminal Court	same
Juvenile Court	same
Municipal Court	19,500
Magistrates Court	600 to 1,200
Justice of the Peace	
Townships of:	
60,000 and over	4,600
Optional Supplement	up to 500
20,000 to 60,000	3,600
Optional Supplement	up to 500
Less than 20,000	fees up to 3,000
Optional Supplement	up to 500
City Courts	Varies

COURT ADMINISTRATOR

Court Commissioner 19,920

BENEFITS

HOSPITALIZATION: Low option Blue Cross, Blue Shield.

VACATION: Up to the judge.

HOLIDAYS: 12 days.

EXPENSE ALLOWANCE: Supreme Court judges receive \$2,400 expense allowance. Other court allowances vary. Per diem for travel is \$12 and 7¢ per mile within state and \$16 outside the state. Supreme Court judges have state cars.

RETIREMENT PLANS

JUDGES COVERED: Judges of all courts except municipal and city courts.

AGE AND SERVICE REQUIREMENTS: Minimum age is 65 after 12 years of service in a state court, or after 12 years of service provided contributions to the fund are continued until the equivalent of 16 years of contributions has been reached. (§ 3253)

CONTRIBUTION: 5% of monthly salary up to \$500.

RETIREMENT BENEFITS: 50% of salary at time of retirement up to \$10,000.

DEATH BENEFITS: The widow receives the amount or balance of her husband's contribution to the fund.

DISABILITY BENEFITS: Judges must comply with provisions of § 3253 if they have served less than 16 years, otherwise full retirement benefits for disability.

SERVICE AFTER RETIREMENT: No specific provisions.

CITATION: Burns' Ann. Ind. Stats. 1933, 1946 Replacement Vol. 2, Part 2, Tit. 4, Chap. 32, §§ 3244 through 3266.

IOWA

HIGHEST COURT

Supreme Court \$24,000

GENERAL TRIAL COURT

District Court 21,000

LIMITED AND SPECIAL COURTS

Superior Court 10,500

Municipal Court 16,800

Justices of the Peace

Townships under 10,000..... Fees (all civil fees, all criminal fees to \$1,200 and ½ of excess.)

Others..... Certain civil fees and salary (based on population) of 1,875 to 3,375.

Police Court Fees*

Mayor's Court Fees**

COURT ADMINISTRATOR

Judicial Department Statistician 15,500

BENEFITS

HOSPITALIZATION: Group policy available to Supreme and District Court judges; judge pays all premium except \$6.00 per month paid by state.

VACATION: Supreme and District judges have 1 week after 1 year, 2 weeks after 2, 3 weeks after 10, and 4 weeks after 15.

EXPENSE ALLOWANCE: Judges of Supreme and District Court receive actual expenses when away from residence up to \$15 per day. Mileage reimbursed at 10¢ per mile.

* Same fees as Justice of the Peace or salary by city ordinance in lieu thereof.

** Same fees as Justice of Peace in addition to salary as mayor.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme, District, Superior, and Municipal Courts.

AGE AND SERVICE REQUIREMENTS: Minimum age is 65 after 6 years of service or any age after 25 years of service. Mandatory retirement for Supreme and District judges appointed after July 1, 1965 is 72 otherwise age 75.

CONTRIBUTION: 4% deduction from basic salary.

RETIREMENT BENEFITS: 3% of average annual salary for last 3 years times years of service not to exceed 50% of salary at retirement.

DEATH BENEFITS: Widow receives amount or balance of amount of credit in the retirement fund.

DISABILITY RETIREMENT: May receive full retirement benefits provided he has served 6 years prior to disability.

SERVICE AFTER RETIREMENT: With consent a retired judge is subject to temporary assignment in any court except in the Supreme Court.

CITATION: Code of Iowa, 1966, Chap. 605A and 1970 Cum. Pocket Supp.

KANSAS

HIGHEST COURT

Supreme Court	
Chief Justice	\$24,500*
Associates	23,500*
Commissioners	23,000*

GENERAL TRIAL COURT

District Court	19,500*
Local Supplement	1,200 to 2,400

LIMITED AND SPECIAL COURTS

Probate Courts	
Shawnee County	19,900
Johnson County	17,500
Sedgwick County	15,500
(add'l as Juvenile Judge)	3,500
Wyandotte County	16,500
(add'l as Juvenile Judge)	3,500
Other Counties	5,000 to 11,500**

County Courts	
Depending on number of cases filed	Percent of Probate Judge's Salary
Less than 250	25%
250 to 500	30%
500 to 1000	40%
More than 1000	50%

SPECIAL COURTS OF COUNTY-WIDE JURISDICTION

Court of Common Pleas (Sedgwick County)	16,000
Magistrate Court	
Shawnee County	13,200
Johnson County	14,000
Wyandotte County	15,000
Saline County	10,000

City Court	
Arkansas City	3,900
Atchison	3,600
Chanute	not reported
Coffeyville	Fees
Hutchinson	10,000
Independence	Fees
Leavenworth	5,400
Pittsburg	4,800
Winfield	not reported

COURT ADMINISTRATOR

Judicial Administrator	17,500
------------------------	--------

* effective January, 1971

** May be increased in certain counties by 15% to 50% range.

BENEFITS

HOSPITALIZATION: State financed employee group plan; family coverage available at judge's expense.

VACATION: Not reported.

HOLIDAYS: Not reported.

EXPENSE ALLOWANCE: Supreme and District Court Judges receive actual and necessary expenses.

RETIREMENT PLANS

JUDGES COVERED: Justices, commissioners, and judges of Supreme and District Courts.

AGE AND SERVICE REQUIREMENTS: Minimum is 65 with no minimum length of service or upon termination of service after 10 years for cause other than death but prior to retirement. Retirement mandatory at 70 or at end of term in which age is attained.

CONTRIBUTION: 6% of monthly salary.

RETIREMENT BENEFITS: 3 1/2% of last monthly salary times number of years of service. Total benefits must not exceed 65% of last monthly salary.

DEATH BENEFITS: Judge may elect to receive reduced benefits to provide benefits to joint annuitant. Benefits available to widow of judge dying in office who was eligible for retirement.

DISABILITY RETIREMENT: Any judge found permanently disabled may retire and receive full benefits.

SERVICE AFTER RETIREMENT: May sit as judge *pro tem* of district court or commissioner of the Supreme Court in any pending original action by request of chief justice of Supreme Court; reimbursement for expenses.

CITATION: Kansas Stats. Ann., Chapter 20, §§ 2601 through 2617 as amended.

KENTUCKY

HIGHEST COURT

Court of Appeals	
Justices	\$26,000
Commissioners	22,500

GENERAL TRIAL COURT

Circuit Court	19,500
---------------	--------

LIMITED AND SPECIAL COURTS*

Quarterly Courts	up to 7,200
County (Probate) Court	up to 7,200
Justice Court	up to 7,200
Police Court	up to 7,200

COURT ADMINISTRATOR

Director of Administrative Office	20,000
-----------------------------------	--------

BENEFITS

HOSPITALIZATION: None.

VACATION: Approximately 9 weeks.

HOLIDAYS: 13 days.

EXPENSE ALLOWANCE: All allowable expenses, mileage is reimbursed at 8 cents per mile.

RETIREMENT PLANS

JUDGES COVERED: Judges, Commissioners of Court of Appeals and Circuit Court, and Court Administrator.

AGE AND SERVICE REQUIREMENTS: Normal age for retirement is 65, minimum service requirement is 8 years. Retirement may be earlier than 65 with benefits deferred at a reduced rate until 65.

CONTRIBUTION: 3% of monthly salary.

RETIREMENT BENEFITS: 5% of average salary for preceding 5 years times years of service up to 100% of final compensation.

DEATH BENEFITS: 50% of retirement or disability benefits to the widow.

* All limited court salaries set by county authorities.

DISABILITY RETIREMENT: No minimum age or service requirement, disabled judge receives 1/2 of his normal retirement allowance at age 65.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: Ky. Rev. Stats., Tit. 1, Chap 21, § 21.345 to 21,510.

LOUISIANA

HIGHEST COURT	
Supreme Court	
Chief Justice	\$37,500
Associates	37,500
INTERMEDIATE APPELLATE COURT	
Court of Appeals	35,000
GENERAL TRIAL COURT	
District Court	
State salary	20,500
Supplement outside New Orleans	13,500
New Orleans Supplement	13,500
LIMITED AND SPECIAL COURTS	
Municipal Court (New Orleans)	15,000 to 16,500*
Traffic Court (New Orleans)	15,000 to 16,500*
Juvenile Court	Same as District Court
City Court	
Under 100,000 population	3,600 to 7,200 plus fees
Over 100,000 population	20,500
Parish Court (Jefferson)	minimum of 17,500
Justices of the Peace	
Civil Cases	Fees
Criminal Cases	salary set locally
COURT ADMINISTRATOR	
Judicial Administrator	22,400

BENEFITS

HOSPITALIZATION: Group policies with family coverage; premium shared by judge and the state.

VACATION: Supreme Court, Court of Appeals, and District Court judges take 4 weeks.

HOLIDAYS: 7 days plus 5 additional if governor declares state business is not pressing.

EXPENSE ALLOWANCE: Court of Appeals judges receive reasonable expenses. District judges get up to \$2,500 office expenses and \$1,800 for travel.

RETIREMENT PLANS

JUDGES COVERED: Judges of Courts of record and Juvenile and Family Courts and the Judicial Administrator.

AGE AND SERVICE REQUIREMENTS: 70 with 20 years service, 65 with 25, or 65 with 20 or any age with 23 with reduced benefits. Mandatory at 75 with 20 years service, or at 80 or until completion of 20 years service which ever comes first. Credit for service on any court of record.

CONTRIBUTION: None.

RETIREMENT BENEFITS: Full salary if 65 with 20 years service or at any age with 23 years of service he receives 2/3 salary; proportionate reduction if 65 with less than 20 years service.

DEATH BENEFITS: 1/2 of salary or 1/2 of retirement benefits to widow.

DISABILITY BENEFITS: Any age with no minimum service, receives retirement benefits he would receive at age 70, minimum 2/3 of salary.

SERVICE AFTER RETIREMENT: May sit on any court of record by assignment of Supreme Court, additional compensation to equate benefits with judicial salary in that court plus expenses.

CITATION: West's Ann. La. Stats., Const. Vol. 2, Art. 7 § 8, Art. 7 § 11.

* Includes \$7,100 from state, \$7,900 from city and optional \$1,500 from city.

MAINE

HIGHEST COURT	
Supreme Court	
Chief Justice	\$21,500
Associates	20,000
GENERAL TRIAL COURT	
Superior Court	19,500
LIMITED AND SPECIAL COURTS	
District Court	
Chief Judge	16,000
Judges	15,000
Probate Court	3,500 to 9,900
COURT ADMINISTRATOR	
Administrative Assistant to Chief Justice	15,000

BENEFITS

HOSPITALIZATION: Blue Cross and Blue Shield policies available to judge, premium paid by the judge.

VACATION: No set policy.

HOLIDAYS: 9 days plus election days.

EXPENSE ALLOWANCE: Supreme and Superior Court judges reimbursed for reasonable traveling expenses. Mileage reimbursed at 10 cents per mile.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme and Superior Courts.

AGE AND SERVICE REQUIREMENTS: Normal retirement at age 70 with at least 7 years service or 65 with 12 years service. Benefits forfeited if judge does not retire before age 71.

CONTRIBUTION: None.

RETIREMENT BENEFITS: 3/4 of salary currently in effect.

DEATH BENEFITS: Widow entitled to 3/8 currently effective salary until she dies or remarries, then to children until they are 18.

DISABILITY BENEFITS: Any age with no minimum service, same as retirement.

SERVICE AFTER RETIREMENT: May be appointed by governor for 7 year term as "active retired justice or judge" to serve on any court by assignment of Chief Justice; 7 year term, renewable.

CITATION: 4 Maine Rev. Stats. Ann. §§ 5, 103, P. L. 1969, Chap. 463 and Chap. 466.

MARYLAND

HIGHEST COURT	
Court of Appeals	
Chief Judge	\$36,000
Judges	35,000
INTERMEDIATE APPELLATE COURT	
Court of Special Appeals	
Chief Judge	33,500
Judges	32,500
GENERAL TRIAL COURT	
Circuit Court	30,500
LIMITED AND SPECIAL COURTS	
People's Court	
Montgomery County	
Chief Judge	25,500
Judges	25,000
Prince George's County	
Chief Judge	22,000
Judges	21,000
Baltimore City*	
Chief Judge	25,500
Judges	25,000
Anne Arundel County	
Chief Judge	19,000
Judges	18,000

Howard County	
Chief Judge	8,500
Judges	8,000
Dorchester	
Chief Judge	4,500
Judges	4,000
Trial Magistrates	300 to 6,500
Orphan's Court (Part time)	
Salaried	600 to 14,500
Others	Per day 8 to 19.50

COURT ADMINISTRATOR
 Director, Administrative Office of the Courts... 30,500

BENEFITS

HOSPITALIZATION: Group policies with family coverage available at state level; state pays a portion of the premiums.

VACATION: Appellate and trial judges entitled to annual vacation of not more than 6 weeks.

HOLIDAYS: 10 days plus election days.

EXPENSE ALLOWANCE: Judges reimbursed for actual expenses in attending judicial conference and when assigned to sit outside his circuit.

RETIREMENT PLANS

JUDGES COVERED: Judges of Circuit Court, Supreme Bench of Baltimore City, Court of Special Appeals, and Court of Appeals.

AGE AND SERVICE REQUIREMENTS: Minimum age is 60 after no minimum service, mandatory retirement at age 70.

CONTRIBUTION: None; contributory plan contribution information not provided.

RETIREMENT BENEFITS: \$750 for each year of service not to exceed \$12,000; Court of Appeals judges receive additional \$100 for each year of service not to exceed \$13,000, judges of Court of Special Appeals receive additional \$50 for each year of service not to exceed \$12,800. Effective July 1, 1969 an alternative contributory plan provided. Judges appointed after July 1, 1969 must join, others may elect to join. Pension is 1/16 of 60% of maximum salary for each year of service up to 16 years.

DEATH BENEFITS: 50% to widow married at least 3 years. Contributory Plan benefits not provided.

DISABILITY BENEFITS: No specific provision.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: Ann. Code of Md. 1957, Vol. 2, 1966 Replacement Vol., Art. 26 §§ 49 and 50, pp. 206 to 210; 1969 Cum. Pocket Supp.

* Baltimore City has a People's Court (5 judges) for civil cases and a Municipal Court (17 judges) for minor criminal and traffic cases. Each court has a chief judge.

MASSACHUSETTS

HIGHEST COURT	
Supreme Judicial Court	
Chief Justice	\$35,000
Associates	33,800
GENERAL TRIAL COURT	
Superior	
Chief Justice	31,300
Associates	39,000
LIMITED AND SPECIAL COURTS	
Probate Court	
Chief Judge	27,300
Associates	
Full Time	26,300
Part Time	9,400*
Land Court	30,000
Municipal Court (Boston)	
Chief Justice	26,300
Associates	25,000

Juvenile Courts (Boston, Springfield and Worcester)	22,000 to 26,300
District Court	
Chief Justice	26,300
Associates	25,000
Part Time	7,600 to 10,100
Special Judges	Per diem**

COURT ADMINISTRATOR
 Executive Secretary to Justice of the Supreme Judicial Court***..... 25,350

BENEFITS

HOSPITALIZATION: Group policies under either state or county plan depending upon source of judge's salary. Judge and governmental unit share the cost of the plan.

VACATION: Supreme Judicial and Superior Court judges takes about 10 weeks.

HOLIDAYS: 10 days (Suffolk County has 12).

EXPENSE ALLOWANCE: Judges reimbursed for travel expenses. Mileage allowance is 8¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: All judges.

AGE AND SERVICE REQUIREMENTS: Judges appointed before July 31, 1956 may retire at or after 70 after 10 years of continuous service. Judges appointed after July 31, 1956 must retire at 70 or after 10 years of continuous service, whichever is later.

CONTRIBUTION: None.

RETIREMENT BENEFITS: 3/4 salary at time of retirement.

DEATH BENEFITS: Judge may choose alternative pension at a reduced rate which will give his widow an annuity of 2/3 the alternative pension after his death. If a judge age 55 or over who had not retired but was eligible to do so or would have had he lived to 70 dies, the widow receives 2/3 of the alternative pension.

DISABILITY BENEFITS: No age or service requirement; same as retirement benefits.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: Government Laws of Mass., Chap. 32 §§ 65A, 65B, and 65C; Constitution Pt. 2, Chap. 3, Art. I, Amendments, Art. LVIII.

* Per diem equivalent to per diem of salary of judge in whose county he is sitting is paid in addition to his salary.

** Serve on Boston's Municipal, Juvenile, and District Courts. Per diem is based on equivalent per diem for a full-time district judge.

*** Salary fixed by chief justice not to exceed 75% of salary of an associate judge.

MICHIGAN

HIGHEST COURT	
Supreme Court	\$35,000
Commissioners	21,694 to 26,705
INTERMEDIATE APPELLATE COURT	
Court of Appeals	32,500
GENERAL TRIAL COURT	
Circuit Court	
State Pay	20,000
Local Supplements	10,000
District Court	
State Pay	18,000
Local Supplement	up to 9,500
LIMITED AND SPECIAL COURTS	
Recorder's Court (Detroit)	30,000
Common Pleas Court (Detroit)	25,000
Probate Court	6,500 to 20,000*

* Depending on population probate judge may receive local supplement, but total salary is not to exceed \$29,000.

Municipal Courts	(part-time) 5,000
	to 20,000
Kalamazoo	20,000
Lansing	17,500
COURT ADMINISTRATOR	
Administrator of the Courts.....	30,463

BENEFITS

HOSPITALIZATION: Group plan with family coverage available, all premiums paid by judge.

VACATION: Up to one month.

HOLIDAYS: 10 plus election days.

EXPENSE ALLOWANCE: Supreme Court, Court of Appeals and Circuit Court reimbursed for actual expenses. Mileage reimbursed at 10¢ a mile.

RETIREMENT PLANS

JUDGES COVERED: A. Judges of Supreme Court, Court of Appeals, Circuit Court, Superior Court of Grand Rapids, Recorders' and Common Pleas Court of Detroit. B. Probate Court.

AGE AND SERVICE REQUIREMENTS: A. Minimum age is 60 after 20 years service, or 70 after 12, or any age after 30 years service. Retirement mandatory at 70. B. Minimum is age 60 after 20 years continuous service, 65 after 16, the last 6 years of which are continuous, or 70 after 6 years continuous service.

CONTRIBUTION: A. 7% of salary to \$720. B. 6% of salary to \$720.

RETIREMENT BENEFITS: A. Appellate judges receive ½ salary at time of retirement, other judges receive ½ current salary of circuit judges. Optional annuities available. B. 26% of salary at time of retirement times years of service (up to 24 years), total allowance not to exceed \$7,200. Optional annuities available.

DEATH BENEFITS: A. If judge has served 10 years and widow is 55 and has been married 10 years, she receives ½ his annuity; she may receive benefits before 55 if there are minor children. B. Widow receives ½ annuity if judge has served 20 years provided she is 55 and has been married 10 years.

DISABILITY BENEFITS: A. 65 with 10 years service, same as retirement; any age with 10, same as retirement computed according to the option for a cash refund annuity until 65 when he has a full choice of options. B. Any age with 10 years service, same as retirement with full choice of options.

SERVICE AFTER RETIREMENT: Temporary filling of a vacancy (Const. Art. VI § 23).

CITATION: A. Mich. Stats. Ann. 1935, Vol. 20 (1962 Revised Volume) and 1969 Cum. Pocket Supp., Title 27, Chap. 266, §§ 27.125 (1) through 27.125 (30). B. *Id.*, Title 27, Chap. 266, §§ 27.3178 (60.1) through 27.3178 (60.33).

MINNESOTA

HIGHEST COURT	
Supreme Court	
Chief Justice	\$27,000
Associates	26,000
GENERAL TRIAL COURT	
District Court	
Ramsey, Hennepin, St. Louis Counties	23,500
Others	22,000
LIMITED AND SPECIAL COURTS	
Municipal Court	420 to 23,000
Probate Court	6,500 to 23,500
	(depending on population)
Justices of the Peace	Fees
COURT ADMINISTRATOR	
Administrative Assistant to Supreme Court	24,000

BENEFITS

HOSPITALIZATION: Coverage available, state pays for judge, judge pays family coverage.

VACATION: 4 weeks.

HOLIDAYS: 11 days.

EXPENSE ALLOWANCE: Chief Justice receives travel expenses; district judges receive expenses while sitting away from their residence. Mileage reimbursement is 9¢ a mile.

RETIREMENT PLANS

JUDGES COVERED: Judges of A. Supreme Court, B. District Court, and C. Probate Courts.

AGE AND SERVICE REQUIREMENTS: A. 70 with 2 full terms of service, 65 with 15 years of service on Supreme and District courts. Mandatory forfeiture of portion of retirement benefits if not retired at 73. B. 65 with 25 years service or 70 with 15 as judge of a court of record. Mandatory forfeiture of benefits if not retired at 70 with 15 years of service or within 6 months of completion of 15 years. C. 70 with 25 years service as probate judge of any court of record, referee in probate or armed forces during war.

CONTRIBUTION: A., B. and C. None.

RETIREMENT BENEFITS: A. ½ current compensation of office plus 2.5% of salary times years of service up to 10 more than minimum years service. B. ½ current salary of office. C. ½ salary at time of retirement.

DEATH BENEFITS: A., B. and C. 50% of allowance judge received or would have received if widow is 40 and has been married 3 years.

DISABILITY BENEFITS: A. Any age plus two terms of service, full pay to end of term, same as retirement thereafter; any age plus one term receives full pay to end of term. B. Any age, no minimum service, pension equals regular pay to the end of judge's elected term and ½ current salary of office thereafter. C. Any age, same as retirement.

SERVICE AFTER RETIREMENT: Any retired justice may be appointed by the court as a commissioner to serve as the court directs.

CITATION: Minn. Stats. Ann., Vol. 27, Chap. 480, pp. 586-599, and 1969 Cum. Pocket Supp.

MISSISSIPPI

HIGHEST COURT	
Supreme Court	
Chief Justice	\$20,000
Presiding Justice	19,500
Associates	19,000
GENERAL TRIAL COURT	
Circuit Court	16,000
Chancery Courts	16,000
LIMITED AND SPECIAL COURTS	
County Courts	5,400 to 13,000
Justice of the Peace.....	Fees

BENEFITS

HOSPITALIZATION: Group policies with optional family coverage available. State pays 40% of specific premium for Supreme Court justices, trial judges pay all their own premiums.

VACATION: Supreme and Circuit Courts take 8 weeks, Chancery Court several weeks.

HOLIDAYS: 10 days.

EXPENSE ALLOWANCE: Circuit and Chancery Judges \$500 per year; justices receive expenses for national and regional conferences.

RETIREMENT PLANS

JUDGES COVERED: All judges.

JUDICIAL SALARIES IN APPELLATE AND TRIAL COURTS

Notes: Alabama—salaries shown become effective January 19, 1971. California—on September 1, 1970, and every year thereafter, judicial salaries will be increased by the percentage gain in California's consumer price index during the preceding calendar year. Kansas—salaries shown become effective January 1, 1971. South Carolina—salaries shown become effective January 1, 1971. Washington—salaries become effective as justices are re-elected (either 1969 or 1971).

¹General Note: Salaries are stated in annual amounts and do not reflect additional compensation for chief justices or presiding judges. Where a salary range rather than a single rate is shown on the chart, it reflects variations due to local supplements or other authorized variations. Also, in jurisdictions which have constitutional restrictions on increasing compensation during a judge's term, the figure shown is for newly appointed or elected judges.

²In computing the National Average and National Median figures, (i) federal salaries are excluded, (ii) all states have been weighed equally without adjustment for variations in the size of the judiciary, (iii) for courts where a salary range rather than a single rate is shown, the figures used have been the average of the upper and lower limits of this range, (iv) Puerto Rico is included.

³Selig, R.N., *1968 Survey of Judicial Salaries and Retirement Plans in the United States*, American Judicature Society, Chicago, 1968.

State	Highest Court	Intermediate Appellate Court	General Trial Court
Alabama	22,500(N)	22,000(N)	18,000 to 24,000(N)
Alaska	28,000	None	26,500
Arizona	23,500	22,500	21,500
Arkansas	22,400	None	19,200
California	42,747(N)	40,076(N)	33,396(N)
Colorado	24,500	22,500	20,000
Connecticut	29,000	None	27,500
Delaware	34,000	None	31,000
Florida	34,000	31,200	28,500
Georgia	26,500	26,500	24,800 to 38,800
Hawaii	32,670	None	30,250
Idaho	25,000	None	22,500
Illinois	40,000	37,500	15,000 to 35,000
Iowa	24,000	None	19,000 to 23,500
Kansas	23,500(N)	None	19,500 to 21,900(N)
Kentucky	26,000	None	19,500
Louisiana	37,500	35,000	20,500 to 34,000
Maine	20,000	None	19,500
Maryland	35,000	32,500	30,500
Massachusetts	33,800	None	30,000
Michigan	35,000	32,500	20,000 to 30,000
Minnesota	26,000	None	22,000 to 23,500
Mississippi	19,000	None	16,000
Missouri	26,500	25,000	20,000 to 23,000
Montana	21,000	None	19,000
Nebraska	25,000	None	22,000 to 23,500
Nevada	22,000	None	19,500
New Hampshire	27,500	None	26,000
New Jersey	45,000	42,000	37,000
New Mexico	22,500	21,000	20,000
New York	42,000	35,600 to 42,100	33,600 to 39,100
North Carolina	29,000	26,000	22,000
North Dakota	20,000	None	18,000
Ohio	30,000	28,000	14,500 to 26,000
Oklahoma	22,500	19,500	17,500
Oregon	26,000	25,000	24,000
Pennsylvania	37,500	35,500	26,500 to 30,000
Rhode Island	25,000	None	23,000
South Carolina	30,000(N)	None	30,000(N)
South Dakota	20,500	None	18,500
Tennessee	24,000	20,000	17,500
Texas	29,000	26,000	20,000 to 28,000
Utah	20,000	None	17,500
Vermont	25,000	None	22,000
Virginia	25,000	None	20,000
Washington	27,500(N)	25,000	22,500
West Virginia	27,500	None	17,000 to 25,000
Wisconsin	28,000	None	21,000 to 28,000
Wyoming	19,000	None	18,500
Puerto Rico	27,000	None	17,000 to 22,900
District of Columbia	42,500	None	40,000
Federal	60,000	42,500	40,000
1970 National Average ²	27,659	28,625	23,345
1968 National Average ³	25,115	27,331	21,030
1970 Median ²	26,000	26,500	22,500
1968 Median ³	24,500	25,000	21,000

AGE AND SERVICE REQUIREMENTS: 65 with 10 years service, 55 with 35, or any age with benefits deferred to 60 except benefits commence at 55 with 30 years service; service credit for state and military service. Retirement is voluntary for judges elected to constitutional office. For others it is mandatory at 65 unless continued service is authorized by retirement board for one year periods to 70.

CONTRIBUTION: 4½% of salary.

RETIREMENT BENEFITS: 1¼% of highest average salary for five years of service times years of membership, plus 1¼% of average salary for each year prior to membership. 3% reduction for each year less than age 65.

DEATH BENEFITS: Options to provide benefits to widows or designated heirs available with reduced retirement allowance, widow of judge who dies in office after 20 years presumed to have chosen option to provide benefits from age 45 until she becomes eligible for social security at 62.

DISABILITY BENEFITS: 60 with 10 years service, same as retirement; any age with 10, 75% of retirement benefits he would receive at 60.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: Miss. Code Ann. 1942, Vol. 5A Recompiled, Tit. 26, Chap. 6, Art. 2 §§ 7446-11 through 7446-29, pp. 353-371 and 1969 Cum. Pocket Supp.

MISSOURI

HIGHEST COURT

Supreme Court	
Judges	\$26,500
Commissioners	26,500

INTERMEDIATE APPELLATE COURT

Court of Appeals	
Judges	25,000
Commissioners	25,000

GENERAL TRIAL COURT

Circuit Court	
First and Second Class Counties	23,000
Third Class Counties	20,000
Optional Supplement	3,000

LIMITED AND SPECIAL COURTS

St. Louis Court of Criminal Corrections	21,000
Probate Court	10,600 to 24,000
Magistrates*	10,600 to 13,500

BENEFITS

HOSPITALIZATION: None.

VACATION: Discretionary.

HOLIDAYS: Discretionary.

EXPENSE ALLOWANCE: Supreme and Court of Appeals judges get actual expenses while temporarily sitting in another court. Circuit judges are allowed actual expenses while sitting in another county.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme Court, Court of Appeals, Circuit Courts, Courts of Criminal Correction and Courts of Common Pleas.

CONTRIBUTION: None.

AGE AND SERVICE REQUIREMENTS: 65 with 12 years service or after six years of continuous service prior to passage of 1959 Law. Retirement mandatory, at 70.

RETIREMENT BENEFITS: ½ current salary of office.

DEATH BENEFITS: No specific provision.

DISABILITY BENEFITS: 50% salary until end of term of office.

* In counties of less than 30,000 probate judge is *ex officio* magistrate and magistrates salary compensates both offices.

SERVICE AFTER RETIREMENT: Appointed special commissioners or referees with life tenure, subject to temporary duty by assignment of Supreme Court, reimbursement for expenses.

CITATION: Vernon's Ann. Stats. of Missouri, Vol. 27, Title 32, Chap. 476 §§ 476.400 through 476.510, pp 86 to 90, 1969 Cum. Pocket Supp., Const. Art. 5 §§ 25 and 27.

MONTANA

HIGHEST COURT

Supreme Court	
Chief Justice	\$22,500
Associates	21,000

GENERAL TRIAL COURT

District Court	19,000
----------------	--------

LIMITED AND SPECIAL COURTS

Police Court	up to 5,400
Justice of the Peace	
where population under 10,000	Fees
10,000 to 15,000	Fees plus 3,400
15,000 to 18,000	Fees plus 3,600
Over 18,000	Fees plus 4,600

BENEFITS

HOSPITALIZATION: State pays ½ premium up to \$7.50 per month.

VACATION: Approximate'y 4 weeks.

HOLIDAYS: 10 days plus election days.

EXPENSE ALLOWANCE: Supreme Court receives actual expenses. District judges receive expenses for sitting outside their district. Mileage reimbursed at 10¢ a mile.

RETIREMENT PLANS

JUDGES COVERED: A. Supreme and District Court judges. B. Judges of courts of limited jurisdiction.

AGE AND SERVICE REQUIREMENTS: A. Minimum is age 65 with 5 years of service. B. Minimum is 65 with 10 years service or 60 after 10 years with reduced benefits. If member retires before 65 and has not completed 10 years service, he receives reduced benefits. Credit given for public service and service in the armed forces.

CONTRIBUTION: A. 6% of salary. B. Based on sex and nearest birthday at time of entrance into system.

RETIREMENT BENEFITS: A. 3.3% per year of salary for first 15 years of service and 1% for each year of service thereafter. B. Actuarially determined and based on years of service; minimum of 50% of salary if judge retires after age 70 provided state's contribution does not exceed \$480.

DEATH BENEFITS: A. If judge dies before retirement, beneficiary receives allowance judge would have received. If judge dies after retirement, beneficiary receives balance of contributions and state annuity. Judge has option of a lesser retirement allowance which provides his beneficiary with a benefit equal to ½ his lesser pension. B. If member dies in office or within 4 months of retirement, widow receives 1/12 of his final compensation times his years of service up to ½ his final compensation.

SERVICE AFTER RETIREMENT: A. Subject to call for service on Supreme and District Courts, reimbursement for expenses. B. No specific provision.

CITATION: Rev. Code of Montana, 1969 Cumulative Supplement, Chap. 11, §§ 93-1107 to 93-1132.

NEBRASKA

HIGHEST COURT

Supreme Court	\$25,000
---------------	----------

GENERAL TRIAL COURT

District Court	22,000
Supplement where population over 150,000	1,500

LIMITED AND SPECIAL COURTS

County Court (Probate).....	4,000 to 19,500*
	(based on population)
Municipal Court	19,000**
Juvenile Court	22,000
Supplement where population over 150,000	1,500
Justice of the Peace.....	Fees

BENEFITS

HOSPITALIZATION: None.

VACATION: Discretionary.

HOLIDAYS: 11 official days but court does not take that many.

EXPENSE ALLOWANCE: Supreme Court has annual allowance of \$3,880 to cover travel to professional meetings for the entire court. District Judges receive actual expenses in holding court.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme, District, Workman's Compensation, County, separate Juvenile Courts—County judges and Municipal Court judges.

AGE AND SERVICE REQUIREMENTS: 65 with no minimum service. Mandatory retirement at 70 or at end of judicial term in which it is reached. Credit for service in any of the above courts or armed forces during war.

CONTRIBUTION: 4% for original members; 6% for future members.

RETIREMENT BENEFITS: Two plans, original member plan covering judges currently serving and future member plan covering judges taking office after December 25, 1969. Original member's plan benefits equal 3½% of final average salary over last 4 years of service times his years of service. Total benefits received by judge cannot exceed 65% of final average salary. Future member's monthly benefit is 1/12 of 2½% of total salary earned by judge for performance of his duties between the time he started making contributions to the fund and the date of his retirement.

DEATH BENEFITS: In event of death of judge before or after retirement, his beneficiary is repaid total or balance of his contributions to the fund.

DISABILITY BENEFITS: No minimum age or service requirement, same as retirement benefits.

SERVICE AFTER RETIREMENT: Permitted.

CITATION: Chap. 24, Art. 7, Reissue Revised Statutes of Nebraska, 1943.

* Maximum applies to Douglas County (Omaha).

** Except in first class cities where set by city council.

NEVADA

HIGHEST COURT

Supreme Court	\$22,000
---------------------	----------

GENERAL TRIAL COURT

District Court	19,500
----------------------	--------

LIMITED COURT

Justice Court	set locally
Municipal Court	set locally

BENEFITS

HOSPITALIZATION: Group policies with family coverage available; judge pays all premiums.

VACATION: Supreme and District judges take 2 to 4 weeks.

HOLIDAYS: 8 days.

EXPENSE ALLOWANCE: Judges reimbursed for in-state conferences at \$20 per day and 10¢ per mile. Per diem for out of state travel to conference of Chief Justices is \$25. Justices of the Peace receive \$20 per day and 10¢ a mile for travel outside municipality.

RETIREMENT PLANS

JUDGES COVERED: A. Supreme and District Court judges. B. All courts are under Public Employees' Retirement System.

AGE AND SERVICE REQUIREMENTS: A. Minimum age is 60 after 12, or 20 years service at different rates of benefits. B. 60 after 10 years service or 55 after 30 years of continuous service.

CONTRIBUTION: A. None. B. 6% of salary.

RETIREMENT BENEFITS: A. 20 years or more, ⅔ final salary; between 12 and 20, ⅓ final salary. B. 20 years service, allowance is 50% of average salary for 3 consecutive highest salaried years during the last 10 years of service. For more than 20 years of service an additional 1.5% of average salary for each additional year up to 10. Minimum guarantee is \$75 per month.

DEATH BENEFITS: A. Widow of any judge eligible for pension receives, at age 65, \$350 per month. B. Members may select one of five optional plans for protection of an heir. If member dies in office his contributions to fund are returned to his heirs. Widow of deceased member with one or more children under 18 may receive \$100 monthly unless she makes more than \$5,000 annually. If judge leaves the service before retirement he may withdraw his contribution. If however the judge has been a member for 25 years he may leave his contribution in the fund and receive benefits when minimum age is attained. Members for 20 years may do the same and receive proportionally smaller benefits to a minimum of 80% of normal benefits.

DISABILITY BENEFITS: A. No specific provision. B. Any age, 10 years service, same as retirement allowance.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: A. Nev. Rev. Stats., Vol. 1, Tit. 1, Chap. 2, §§ 2.060 and 2.070, Chap. 3, § 3.090 as amended Stats. 1960, Chap. 225. B. Nev. Rev. Stats., Vol. 2, Tit. 23, Chap. 286, §§ 286.010 through 286.800.

NEW HAMPSHIRE

HIGHEST COURT

Supreme Court	
Chief Justice	\$28,500
Associates	27,500

GENERAL TRIAL COURT

Superior Court	
Chief Justice	27,000
Associates	26,000

LIMITED AND SPECIAL COURTS

Probate Court	9,000
Municipal Court	150 to 1,000*
District Court	1,400 to 1,900**

BENEFITS

HOSPITALIZATION: Group plan with family coverage available, state pays \$3.00 of premium—judge pays remainder.

VACATION: Discretionary.

HOLIDAYS: 11 days plus election days.

EXPENSE ALLOWANCE: Supreme and Superior Court judges get actual expenses, mileage reimbursed at 8¢ a mile.

RETIREMENT PLANS

JUDGES COVERED: A. All courts under state Employees' Retirement System. B. Optional disability plan for Supreme and Superior Court judges.

AGE AND SERVICE REQUIREMENTS: A. Minimum is age 60 with no minimum length of service. Retirement is compulsory for judges at 70. B. None.

* Salary established locally.

** Based on case load formula.

CONTRIBUTION: A. Actuarially determined. B. None.

RETIREMENT BENEFITS: A. 1/60 of average final compensation times number of years of service under 30 plus 1/120 of additional years. Each member is guaranteed at least 50% of average final compensation or if he has completed less than 30 years a proportionate amount. B. None.

DEATH BENEFITS: A. In event of occupational death, widow receives annuity of 50% of average final compensation. Member may elect in lieu of regular allowance one of a series of actuarially reduced annuities with additional benefits for designated heirs. B. None.

DISABILITY BENEFITS: A. 10 years of service, 60 years old, regular retirement allowance. If under 60, 90% of regular retirement allowance. B. 50% of salary at time of retirement.

SERVICE AFTER RETIREMENT: A. Supreme and Superior Court judges become judicial referees at 3/4 current effective salary. B. Must perform such duties as may be assigned to him by the Chief Justice.

CITATION: N. H. Const., Pt. II, Art. 78; R.S.A. 100-A, 490:2, 491:2, 493-A, 493:2.

NEW JERSEY

HIGHEST COURT

Supreme Court
Chief Justice \$47,500
Associates 45,000

INTERMEDIATE APPELLATE COURT

Appellate Division, Superior Court..... 42,000

GENERAL TRIAL COURT

Superior Court 37,000 and 40,000*
County Court 37,000

LIMITED AND SPECIAL COURTS

County District Courts..... 34,000
Juvenile and Domestic Relations Courts..... 34,000
Municipal Courts up to 20,000

STANDING MASTER 32,000

COURT ADMINISTRATOR

Administrative Director of the Courts..... 32,000**

BENEFITS

HOSPITALIZATION: Group policy available. State pays judges' premium, judge pays for family coverage.

VACATION: 7 weeks (5 in summer, 1 at Christmas, and 1 at Easter).

HOLIDAYS: 14 days.

EXPENSE ALLOWANCE: Supreme Court, Appellate Division, Superior and County Court judges are reimbursed for actual expenses in connection with judicial functions not exceeding state per diem of \$25 or \$16 per diem when engaged in official travel other than attendance at a convention or conference.

RETIREMENT PLAN

JUDGES COVERED: A. Supreme and Superior Courts. B. County Court, optionally county judges are covered under Public Employees' Retirement System. C. Juvenile and Domestic Relations Courts and County District Courts covered by Public Employees Retirement System.

AGE AND SERVICE REQUIREMENTS: A. May retire at 65 after 15 years service or at 60 after 25. Mandatory at 70 after aggregate of 10 years service. B. 70 after 10 years successive service on County Court, if covered under Public Employees' Plan minimum is 70 after 10 years aggregate service on county court or court of common pleas or 65 with 10 if judge is not reappointed; benefits begin at 70. C. Voluntary at age 60 and mandatory at 70 with no minimum service requirement but benefits depend on years of service.

* Superior Court assignment judges receive the higher figure.

** Includes \$5,000 as Standing Master.

CONTRIBUTION: A. 10% of difference between current salary and salary prior to July 1, 1965. B. None. C. Actuarially determined.

RETIREMENT BENEFITS: A. 3/4 annual salary at time of retirement. B. 1/2 annual salary at retirement. C. Actuarially determined.

DEATH BENEFITS: A. and B. 1/4 annual salary received by husband if widow was married before age 50. C. Not provided.

DISABILITY BENEFITS: A. Any age, no minimum service, 3/4 salary. B. Not provided. C. Any age with 10 years service, benefits are: 9/10 times years of service, divided by 60, times final average salary.

SERVICE AFTER RETIREMENT: Judges under age 70 may serve at request of chief justice and receive \$50 per diem.

CITATION: A. N. J. Stats. Ann. 43: 6-6.4 et seq. B. N. J. S. 2A:3-21.1 et seq. and N.J.S.A. 43: 15A-121 et seq. C. N.J.S.A. 15A-1 through 15A-127. Const. Art. 6, Sec. 6, Paras. 3 and 5.

NEW MEXICO

HIGHEST COURT

Supreme Court \$22,500

INTERMEDIATE APPELLATE COURT

Court of Appeals 21,000

GENERAL TRIAL COURT

District Court 20,000

LIMITED AND SPECIAL COURTS

Probate Court 1,000 to 3,960
Small Claims Court 8,000
Municipal Court (Albuquerque) 16,000
Magistrate Court 2,000 to 14,000

COURT ADMINISTRATOR

Director of Administrative Office 11,550

BENEFITS

HOSPITALIZATION: Group policy available, state pays approximately 25% of premium.

VACATION: 30 days.

HOLIDAYS: 10 days.

EXPENSE ALLOWANCE: Supreme and District Court judges are paid in state per diem of \$20, \$25 without the state. Mileage is reimbursed at 10¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: Supreme and District Court.

AGE AND SERVICE REQUIREMENTS: 64 with 10 years service, or 60 with 16.

CONTRIBUTION: 6% of salary.

RETIREMENT BENEFITS: 50% of average salary of last 3 years of service.

DEATH BENEFITS: 50% of retirement benefits to widow of judge who retired at or before 70. 99% of contribution refunded to widow or heirs of judge who dies in office.

DISABILITY BENEFITS: Any age with 10 years service, 50% of salary.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: N.M. Stats. 1953, Vol. 2, Chap. 5, Art. 5, 1969 Supp., §§ 5-5-1.2 to 5-5-28.1.

NEW YORK

HIGHEST COURT

Court of Appeals
Chief Judge \$44,500
Associates 42,000

INTERMEDIATE APPELLATE COURT

Appellate Division, Supreme Court
First and Second Departments
Presiding Justice 43,600
Associates 42,100

Third and Fourth Departments	
Presiding Justice	36,100
Associates	35,600
(Above figures include local supplements)	
GENERAL TRIAL COURT	
Supreme Court	
First and Second Departments	39,100
Third and Fourth Departments	33,600
(Above figures include local supplements)	
LIMITED AND SPECIAL COURTS	
Family Court	
New York City	30,000
Elsewhere	25,000 to 30,000
County Court	25,000 to 30,000
Nassau County District Court	
Presiding Judge	32,500
Associates	30,000
Suffolk County District Court	
Presiding Judge	25,000
Associates	22,500
Court of Claims	
Presiding Judge	34,000
Associates	34,000
Surrogate Court	
New York City	39,100
Richmond	35,500
Elsewhere	25,000 to 36,382
New York City Civil Court	30,000
New York City Criminal Court	30,000
Justice Courts	varies
COURT ADMINISTRATOR	
State Administrator, Judicial Conference	42,678
Department Directors of Administration	
First and Second Departments	36,325
Third Department	30,608
Fourth Department	30,608

BENEFITS

HOSPITALIZATION: Group policies with family coverage available, premiums shared by state and judge.

VACATION: About 7 weeks in major courts, less in some lower courts.

HOLIDAYS: Regular state holidays.

EXPENSE ALLOWANCE: In lieu of expenses judges given allowances of \$6,000 in Court of Appeals, \$6,500 in Appellate Division in Third and Fourth Departments, \$3,000 in Supreme Court, \$7,000 to presiding judge of Court of Claims, and \$4,500 to Court of Claims judges.

RETIREMENT PLAN

JUDGES COVERED: A. Judges paid by city of New York. B. Judges paid by state.

AGE AND SERVICE REQUIREMENTS: A. Minimum age is 60 or 55 with actuarially higher rate of salary deductions and pension, no minimum service requirement. Retirement mandatory at 70 but service may be extended for additional periods of two years each up to 80. Credit given for service in city agencies or courts. B. Minimum age is 60 or 55 with actuarially higher contributions, or any age after 20 years service in the event of separation without personal fault. Retirement compulsory at 70 unless exempted by law.

CONTRIBUTION: A. and B. Actuarially determined.

RETIREMENT BENEFITS: A. Actuarial equivalent of contributions plus pension of 1/40 of final compensation (average during selected 5 years) for members retiring at 60. 1/120 or 1/100 of final compensation for persons retiring at 55. B. Members retiring at 60 receive annuity paid from accumulated contributions plus pension equal to 1/140 of final average salary times years of membership service plus pension of 1/70 times final average salary times years of prior service. Members retiring at 55 receive annuity as above plus 1/20 final average salary times years of service.

DEATH BENEFITS: A. Non-occupational death, benefits equal accumulated contributions plus amount of salary

earned in 6 months prior to death, or if member had more than 10 years service, amount of salary earned in previous 12 months. Occupational death, widow receives pension of 1/2 member's salary at death. B. Occupational death, pension of 1/2 average final salary. Non-occupational death after one year of service accumulated contributions plus 1/12 salary at death for each year of service up to 12 years. In addition state provides extra non-occupational benefits on a year-to-year basis consisting of 1/24 of salary at death for each year of service beyond 12 years not to exceed 24 additional years.

DISABILITY BENEFITS: A. Occupational disability, any age no minimum service, allowance of actuarial equivalent of contributions plus pension equal to reserve-for-take-home-pay to which he is entitled plus additional pension of 3/4 of final compensation. Non-occupational disability, minimum service is 10 years, allowance is allowance member would have received at minimum retirement age computed on basis of actual length of service, not below 1/4 final compensation. B. Occupational disability, same as A. Non-occupational disability, any age, 15 years service, if 60 allowance computed in regular manner, if below 60, allowance is 90% of 1/70 of final average salary times years of service, not below 1/4 of that amount. Supplemental allowance provided for judicial officers retired by court on the judiciary payable to end of term or age 70. Such allowance, together with all other benefits, shall total 3/5 of salary at time of retirement.

SERVICE AFTER RETIREMENT: Retired judges may be appointed as retired justices of the Supreme Court for renewable terms of two years each. Compensation is same as Supreme Court judge.

CITATION: A. New York City Charter and Administrative Code Ann., Title B, §§ B-3-1.0 through B-3-55.0, pp. 31-76 and 1969 Cum. Pocket Supp. B. McKinney's Consol. Laws of N. Y., Book 50 1/2 "Retirement and Social Security Laws," §§ 2 through 119, pp. 2-160 and 1969 Cum. Pocket Supp. Service after retirement found in: *id.*, Book 29 "Judiciary Law," §§ 115-125, pp. 211-238 and 1969 Cum. Pocket Supp. Const. Art. 6, §§ 9, 9-a and 19.

NORTH CAROLINA

HIGHEST COURT

Supreme Court	
Chief Justice	\$30,000
Associates	29,000

INTERMEDIATE APPELLATE COURT

Court of Appeals	
Chief Judge	27,000
Associates	26,000

GENERAL TRIAL COURT

Superior Court	22,000
----------------------	--------

LIMITED AND SPECIAL COURTS

District Court	
Chief Judges	18,000
Judges	17,000
County Court	7,500 to 10,000
Recorder's Court	6,500 to 10,000
Municipal Court	varies
Justice Court	varies

COURT ADMINISTRATOR

Director, Administrative Director of the Courts ..	24,500
--	--------

BENEFITS

HOSPITALIZATION: None.

VACATION: Appellate and Superior Court judges 6 weeks, District judges 3 weeks.

HOLIDAYS: Discretionary.

EXPENSE ALLOWANCE: Appellate and District judges receive travel reimbursement at 9¢ per mile and limited subsistence. In the case of District judges it is a maximum of \$15 per day. Superior judges have an expense allowance of \$5,000 per year.

RETIREMENT PLANS

JUDGES COVERED: A. Appellate judges. B. Superior Court judges (Court Administrator receives the same coverage).

AGE AND SERVICE REQUIREMENTS: A. Minimum is 15 years service, whether consecutive or not, 65 with 12 years consecutive service in appellate division, or 75 with 8 years consecutive service in appellate division, or 24 years of service regardless of age. B. 65 with 15 years service, 68 with 12 consecutive years of service, or after 24 years of service. Retirement mandatory at 70.

CONTRIBUTION: A. and B. None.

RETIREMENT BENEFITS: A. $\frac{2}{3}$ of current salary. B. Same.

DEATH BENEFITS: A. and B. No specific provision.

DISABILITY BENEFITS: A. and B. After 8 years service, benefits same as retirement allowance.

SERVICE AFTER RETIREMENT: A. and B. Judges who retire on longevity are "emergency" judges for life and are subject to temporary recall to active duty. They are paid \$100 weekly plus expenses.

CITATION: Gen. Stats. of N. C., Chap. 7A, Arts. 6 and 8, 7A-39.1 through 7A-39.11, 7A-50 through 7A-55.

NORTH DAKOTA

HIGHEST COURT

Supreme Court	
Chief Justice	\$20,500
Associates	20,000

GENERAL TRIAL COURT

District Court	18,000
----------------	--------

LIMITED AND SPECIAL COURTS

County Court of Increased Jurisdiction	11,000 to 15,000
Other County Courts (Probate)	5,600 to 8,500*
County Justice Court	up to 5,000

BENEFITS

HOSPITALIZATION: Group policies with family coverage available, all premiums paid by judge.

VACATION: No set policy.

HOLIDAYS: 8 days.

EXPENSE ALLOWANCE: Mileage reimbursement is 9¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: Supreme and District Court judges.

AGE AND SERVICE REQUIREMENTS: Retirement at any age; benefits commence at 65 after 20 years of service, 66 after 18, 67 after 16, 68 after 14, 69 after 12, or 70 after 10. Mandatory forfeiture of benefits at 73 if continuing to hold office.

CONTRIBUTION: 5% of salary during the first 20 years of service.

RETIREMENT BENEFITS: $\frac{1}{2}$ current salary of office.

DEATH BENEFITS: Judge has 3 options; $\frac{3}{4}$ retirement benefits until he dies then $\frac{1}{2}$ to unmarried widow until age 62, $\frac{2}{3}$ allowance until he dies then $\frac{2}{3}$ to widow until 62, or $\frac{1}{2}$ retirement until he dies and $\frac{1}{2}$ to wife at 62 even if her husband is alive.

DISABILITY BENEFITS: Full salary of office for remainder of term.

SERVICE AFTER RETIREMENT: May be appointed commissioner by Supreme Court and is eligible to serve as referee in civil action in any court or as legal counsel in any state agency.

CITATION: N. D. Century Code Ann. 1960, Tit. 27, §§ 1701 through 1705 and 1969 Supplement; Disability, *id.*, Chap. 05 §§ 05031, 05032 p. 658.

* Plus supplement not to exceed 10% set by County Commissioners if they feel the duties merit the increase.

OHIO

HIGHEST COURT

Supreme Court	
Chief Justice	\$32,000
Associates	30,000

INTERMEDIATE APPELLATE COURT

Court of Appeals	28,000
------------------	--------

GENERAL TRIAL COURT

Court of Common Pleas	14,500 to 26,000*
-----------------------	-------------------

LIMITED AND SPECIAL COURTS

Probate Court	14,500 to 26,000*
Municipal Court	10,000 to 23,000
Part Time	6,000
Juvenile Court (Cuyahoga County)	26,000
County Courts	6,000

COURT ADMINISTRATOR

Administrative Director of the Courts	24,960
---------------------------------------	--------

BENEFITS

HOSPITALIZATION: Group policies available with family coverage, state or county pays $\frac{1}{2}$ the premium.

VACATION: 30 days.

HOLIDAYS: 9 days.

EXPENSE ALLOWANCE: Court of Appeals judges have per diem of \$20 when they sit in another appellate district and actual expenses when they sit on the Supreme Court. Common Pleas, Probate and Juvenile judges per diem is \$30 and Municipal judges per diem is \$15. Mileage allowance is 10¢ per mile.

RETIREMENT PLAN

JUDGES COVERED: All judges.

AGE AND SERVICE REQUIREMENTS: 60 with 5 years service, 55 after 25, or any age with 36 years service. Credit given for military service and elective office.

CONTRIBUTION: 7.7% of first \$25,000 in salary.

RETIREMENT BENEFITS: Allowance actuarially figured and may be as high as 85% of average salary for highest 5 years of service.

DEATH BENEFITS: Three options available for a lesser allowance with benefits accruing to designated heirs. Widow or heirs of a member who had completed 5 years service may also receive a monthly allowance of \$50 to \$100 a month.

DISABILITY BENEFITS: Any age with no minimum service, benefits include annuity equal to contribution plus pension based on difference between attained age and regular retirement age.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: Baldwin's Ohio Rev. Code and Service 1964, Vol. 1, Title 1, §§ 145.01 through 145.99.

* Figures include local supplements of \$2,000 to \$10,000.

OKLAHOMA

HIGHEST COURT

Supreme Court	\$22,500
Court of Criminal Appeals	22,500

INTERMEDIATE APPELLATE COURT

Court of Appeals	19,500*
------------------	---------

GENERAL TRIAL COURT

District Court	
District Judge	17,500
Associate District Judges	
Pop. over 300,000	16,500
10,000 to 300,000	14,500
Under 10,000	13,000
Special Judges	
Lawyers	13,000
Non-lawyers	9,000

LIMITED AND SPECIAL COURTS

Court on the Judiciary	
Appellate Division	**
Trial Division	**

State Industrial Court	17,500
Court of Tax Review	***
Court of Bank Review	***
Municipal Courts	***
COURT ADMINISTRATOR	
Administrative Director	17,500

BENEFITS

HOSPITALIZATION: Covered by group policy.
VACATION: Up to 15 days, with sick leave up to 45 days.
HOLIDAYS: 7 days.
EXPENSE ALLOWANCE: Actual and necessary expenses while outside county of residence, not to exceed 9¢ per mile and per diem of \$12 or subsistence allowance of \$10 per day in-state and \$20 per day out-state.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme Court, Court of Criminal Appeals, Industrial, Intermediate Appellate and District Courts.

AGE AND SERVICE REQUIREMENTS: 60 after 20 years service, 65 after 10, or 70 after 8. Credit given for prior service in courts of record. Retirement mandatory at end of term in which requirements met.

CONTRIBUTION: 4% of 75% of his salary.
RETIREMENT BENEFITS: 4½% of final salary times years of service up to 75% of final salary.
DEATH BENEFITS: Contributions are paid to beneficiaries if judge dies before he retires, no survivor benefits.
DISABILITY BENEFITS: No specific provision.
SERVICE AFTER RETIREMENT: May serve by assignment of Supreme Court.
CITATION: 20 O. S. Supp. 1969 §§ 1101 through 1108.

* In operation January, 1971.
 ** Trial and Appellate judges serve on them "ex officio" without additional pay.
 *** Special courts manned by district judges, who receive only expenses.
 **** Compensation set by local ordinance.

OREGON

HIGHEST COURT	
Supreme Court	\$26,000
INTERMEDIATE APPELLATE COURT	
Court of Appeals	25,000
GENERAL TRIAL COURT	
Circuit Court	24,000
LIMITED AND SPECIAL COURTS	
Tax Court	24,000
District Court	18,000
Justice of the Peace	up to 8,800
County Court	3,000 to 10,500
COURT ADMINISTRATOR	
Administrative Assistant to Chief Justice	15,000

BENEFITS

HOSPITALIZATION: Group policy with family coverage available, premium paid by judge.
VACATION: 2 to 4 weeks.
HOLIDAYS: 7 days.
EXPENSE ALLOWANCE: Actual expenses and travel for duty outside district and to meetings of Judicial Conference. Mileage allowance is 8¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme Court, Court of Appeals, Circuit and Tax Court and is optional for District Court judges.

AGE AND SERVICE REQUIREMENTS: 65 after 16 years service or 70 after 12. Retirement compulsory at 75. Any judge who holds office for 16 years and contributes to fund for 16 years will receive benefits at 65 even though he ceases to hold office before 65. No judge has to contribute for more than 16 years.

CONTRIBUTION: 7% of salary.

RETIREMENT BENEFITS: 45% of highest average salary for 5 out of last 10 years.

DEATH BENEFITS: Widow's pension is determined by % of basic amount (22.5% of final average pay of judge) scaled from 100% to 20% depending upon years of service of judge. If, prior to death, they have been married 10 years, no adjustment is made in widow's pension, but if married less than 10 and wife more than 3 years younger, she receives an actuarial amount.

DISABILITY BENEFITS: Involuntarily retired judge receives regular retirement allowance if otherwise fully qualified. Voluntarily retired judge with 6 years service receives regular retirement allowance.

SERVICE AFTER RETIREMENT: Retired justices may be appointed *pro tempore* to Supreme or Circuit Court by the Supreme Court. Retired Circuit judges may be appointed *pro tempore* to Circuit Court by Supreme Court.

CITATION: Oregon Rev. Stats., Vol. 1, Tit. 1, Chap. 1, §§ 1.130 through 1.380 pp. 6-8a (Amend. 1969), Const. Art. 7 (Amended) § 1a.

PENNSYLVANIA

HIGHEST COURT	
Supreme Court	
Chief Justice	\$38,000
Associates	37,500
INTERMEDIATE APPELLATE COURT	
Supreme Court	
Presiding Judge	36,000
Associates	35,500
GENERAL TRIAL COURT	
Court of Common Pleas*	26,500 to 30,000**
LIMITED AND SPECIAL COURTS	
Philadelphia County	
Municipal Court	
Attorney Judges	20,000***
Lay Judges	16,500
Traffic Court	16,500***
Justices of the Peace	3,000 to 14,000
COURT ADMINISTRATOR	
State Court Administrator	35,000

BENEFITS

HOSPITALIZATION: Group policies with family coverage available, premium shared.
VACATION: Supreme Court theoretically has one month, practically less.
HOLIDAYS: 5 days.
EXPENSE ALLOWANCE: Supreme Court judges have \$4,000 expense allowance, Superior Court judges have \$3,000. Mileage allowance is 8¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: All judges paid by the state.
AGE AND SERVICE REQUIREMENTS: 60 with one full elective term or 10 years of service, any age after 20 years judicial service or 25 years of state service.
CONTRIBUTION: Salary deductions computed on basis

* Presiding judge receives \$500 more in each district.
 ** Common Pleas Court in Lehigh County (Harrisburg) also functions as Commonwealth Court. The 3 judges handle actions against the state and are paid \$37,500.
 *** Presiding Judge receives \$1,000 additional.

of varying proportions (from 1½% to 2½%) of an actuarially determined base rate of contribution.

RETIREMENT BENEFITS: 4% of average annual salary for five highest years for each year of service during first 10 years plus 3% of final average salary for each year thereafter. Supreme Court justice with no other service who contributes at a higher rate may receive 5% for first 16 years and 4% for each year thereafter. Allowance may be modified by 1 of 4 options but maximum allowance is 80% of final salary.

DEATH BENEFITS: If judge dies in office while eligible for retirement, pension he was eligible for is paid to his designated heir.

DISABILITY BENEFITS: With 5 years service, actuarial equivalent of accumulated contributions plus state annuity of 1/90 final salary times years of service at a minimum of 33% of final salary.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: *Paydon's Penn. Stats. Ann.*, Tit. 71, Chap. 8, §§ 1725-101 through 1725-811 pp. 250-290 and 1969 Cum. Pocket Supp.

RHODE ISLAND

HIGHEST COURT	
Supreme Court	
Chief Justice	\$26,000
Associates	25,000
GENERAL TRIAL COURT	
Superior Court	
Presiding Justice	24,000
Associates	23,000
LIMITED AND SPECIAL COURTS	
District Court*	20,000
Probate Court	up to 11,440
Family Court	
Chief Judge	24,000
Associates	23,000
COURT ADMINISTRATOR	
Court Administrator	14,404

BENEFITS

HOSPITALIZATION: Group policies available, state pays for judge, judge pays for family coverage.

VACATION: *Varies.*

HOLIDAYS: 10 days.

EXPENSE ALLOWANCE: Supreme Court justices get travel allowances for out-of-state conferences. Superior and Family judges receive 8¢ per mile while on circuit.

RETIREMENT PLANS

JUDGES COVERED: Supreme, Superior, Family, and District Court judges.

AGE AND SERVICE REQUIREMENTS: 65 after 20 years service on either court, or 70 after, or if a justice on January 16, 1956 any age after 25 years (with increased pension).

CONTRIBUTION: None.

RETIREMENT BENEFITS: ¼ of salary at time of retirement, full salary for judges in office on January 16, 1956 who retire with 25 years service.

DEATH BENEFITS: No provision.

DISABILITY BENEFITS: No specific provision.

SERVICE AFTER RETIREMENT: Superior judge may sit as associate on Superior Court at request of presiding judge.

CITATION: *Gen. Laws of R. I.* 1956, Vol. 2, Tit. 8, Chap. 3, §§ 7 and 8, p. 386 and 1967 Cum. Pocket Supp. Also § 8-10-42 G.L. and § 8-8-10 G.L. as amended by Chap. 239, 1969 Public Laws.

* Chief Judge receives \$21,000.

SOUTH CAROLINA

HIGHEST COURT	
Supreme Court	
Chief Justice	\$35,000*
Associates	30,000*
GENERAL TRIAL COURT	
Circuit Court	30,000*
LIMITED AND SPECIAL COURTS	
County Court	set locally
Probate Court	set locally
Juvenile & Domestic Relations Court	set locally
Municipal Court	set locally
Magistrates Court	set locally

BENEFITS

HOSPITALIZATION: Hospitalization policy available; premium paid by the judge.

VACATION: No set policy.

HOLIDAYS: 13 days.

EXPENSE ALLOWANCE: Supreme Court judge has \$600 expense allowance and \$25 per diem for travel. Circuit judge has travel per diem of \$25. Mileage allowance is 9¢ a mile.

RETIREMENT PLANS

JUDGES COVERED: Supreme and Circuit Court judges.

AGE AND SERVICE REQUIREMENTS: 70 with 15 years service, 65 with 20, or any age with 25. Mandatory at 72.

CONTRIBUTION: 4% of salary.

RETIREMENT BENEFITS: ¾ current salary of office.

DEATH BENEFITS: ½ of retirement benefits to widow, so long as she is unmarried.

DISABILITY BENEFITS: Any age with 7 years service, same as retirement.

SERVICE AFTER RETIREMENT: Any retired judge or justice may serve as associate justice or special circuit judge at the call of the chief justice, reimbursement for expenses.

CITATION: *Code of Laws of South Carolina*, Title 61, Chap. 5, §§ 251-258.

* Effective January 1, 1971.

SOUTH DAKOTA

HIGHEST COURT	
Supreme Court	\$20,500
GENERAL TRIAL COURT	
Circuit Court	18,500
LIMITED AND SPECIAL COURTS	
District County Courts	16,500*
Municipal Judges	—

BENEFITS

HOSPITALIZATION: Group policies with family coverage available, premium paid by the judge.

VACATION: Depends on workload.

HOLIDAYS: 9 days plus election days.

EXPENSE ALLOWANCE: \$2,000 travel allowance for Supreme Court. Circuit Judges reimbursed for traveling outside their circuit. Per diem maximum for in-state is \$13.52, out-state \$24.25. Mileage allowance is 8¢ a mile.

RETIREMENT PLANS

JUDGES COVERED: Supreme and Circuit Court judges.

* Pursuant to 1966 constitutional amendment the Supreme Court in 1969 divided the state into 19 county court districts with the approval of the Senate replacing 64 county and municipal courts except for 3 municipal courts retained.

JUDICIAL SALARIES IN SELECTED COURTS OF LIMITED JURISDICTION

Notes: Arkansas—common pleas courts are presided over by county judges. Supplements of from \$100 to \$900 for these duties are included in the salaries shown. Massachusetts—salary given is for full-time judges; part-time judges are paid from \$7,600 to \$10,000. New Jersey—county district courts have \$3,000 limit on negligence actions. North Carolina—county and recorder's court are gradually being replaced by a uniform system of district courts. The transition will be completed in 1971.

State	Court	Jurisdiction			Minor Court Salary	Major Court Salary
		Civil	Criminal	Probate		
Alabama	Superior	Varies	Limited	No	6,000-10,000	18,000-24,000
Alaska	District	\$ 3,000	General	No	19,000	26,500
Arkansas	Common Pleas	1,000	None	No	3,100-5,900 (N)	19,200
California	Municipal	5,000	Misdemeanors	No	30,724	33,396
Colorado	County	500	Misdemeanors	No	17,500	20,000
	Superior (Denver)	5,000	General	No	20,000	20,000
Connecticut	Common Pleas	15,000	None	No	22,500	27,500
	Circuit	7,500	None	No	21,500	27,500
Delaware	Common Pleas	2,500	Misdemeanors	No	9,500-27,000	31,000
Dist. of Columbia	Court of General Sessions	10,000	Limited	No	27,500	40,000
Florida	Civil Court of Record	1,000, 5,000	Varies	No	20,000-25,000	28,500
	Courts of Record	10,000			13,500-27,500	28,500
Georgia	City, Municipal	Varies	Misdemeanors	No	4,600-22,500	24,800-38,800
	Civil and Criminal					
Hawaii	District	2,000	Misdemeanors	No	23,670	30,250
Illinois	Magistrates	10,000	Misdemeanors	Yes	15,000-23,000	15,000-35,000
Indiana	Municipal (Marion Co.)	10,000	Misdemeanors	No	19,500	19,000-23,500
Iowa	Municipal	2,000	Misdemeanors	No	16,800	21,000
Kansas	Probate	1,000	Misdemeanors	Yes	5,000-19,900	19,500-21,900
	Municipal & Cm Pleas	1,000, 3,000	Misdemeanors	No	3,600-16,000	19,500-21,900
Louisiana	City	100-1,000	None	No	3,600 + FEES to 34,000	20,500 to 34,000
Maine	District	10,000	Limited	Yes	15,000	19,500
Maryland	Magistrates	Varies	Limited	No	300-6,500	30,500
	Peoples (Baltimore)	3,000	None	No	25,000	30,500
Massachusetts	District & Municipal	Unlimited	Limited	No	25,000 (N)	30,000
Michigan	District	3,000	Limited	No	18,000-27,500	20,000-30,000
	Common Pleas (Detroit)	5,000	None	No	25,000	20,000-30,000
Minnesota	Municipal	Varies	None	No	420-23,000	22,000-23,500
Mississippi	County	10,000	Misdemeanors	No	5,400-13,000	16,000
Missouri	Magistrate	2,500	Misdemeanors	No	10,600-13,500	20,000-23,000
Nebraska	Municipal	2,000	Limited	No	19,000	22,000-23,500
	County	1,000	Limited	Yes	4,000-19,500	22,000-23,500
New Hampshire	District	1,500	Limited	No	1,400-19,000	26,000
New Jersey	County-District	1,000 (N)	Misdemeanors	No	34,000	37,000
New Mexico	Small Claims (Albuquerque)	2,000	Limited	No	8,000	20,000
New York	County Courts	6,000-10,000	General	No	25,000-33,000	33,600-39,100
	Civil court of NYC	10,000	None	No	30,000	33,600-39,100
	Criminal court of NYC	None	General	No	30,000	33,600-39,100
North Carolina	District	5,000	Limited	No	17,000	22,000
	County (N)	3,000	Misdemeanors	Yes	7,500-10,000	22,000
	Recorder (N)	1,000	Misdemeanors	No	6,500-10,000	22,000
North Dakota	County	1,000	Misdemeanors	Yes	5,600-15,000	18,000
Ohio	Municipal	5,000 (N)	Misdemeanors	No	10,000-23,000	14,500-26,000
Oklahoma	Associate District Judges	Unlimited	General	Yes	13,000-16,500	17,500
Oregon	District	2,500	Limited	Yes	18,000	24,000
Pennsylvania	Municipal (Philadelphia)	500	Limited	No	20,000	26,500-30,000
Rhode Island	District	5,000	Limited	No	20,000	23,000
South Carolina	County	7,500-25,000	Limited	No	VARIES	30,000
South Dakota	District County	1,000	Limited	Yes	16,500	18,500
Tennessee	General Sessions	3,000	Misdemeanors	No	1,800-11,800	17,500
Texas	County	1,000	Misdemeanors	Yes	18,500-22,500	20,000-28,000
Utah	City	1,000	Misdemeanors	No	5,000-10,500	17,500
Vermont	District	5,000	None	No	19,000	22,000
Virginia	Municipal	2,000	Misdemeanors	No	12,000-22,000	20,000
	County	2,000	Misdemeanors	Varies	3,000-15,000	20,000
Washington	Justice	1,000	None	No	20,000	22,500
Wisconsin	County	500,000	Limited	Yes	18,500-27,000	21,000-28,000
Puerto Rico	District	2,500	Misdemeanors	No	17,000	22,900

AGE AND SERVICE REQUIREMENTS: 65 with 15 years service on either or both courts or any age after 20.

CONTRIBUTION: 4% of salary.

RETIREMENT BENEFITS: 1/2 salary at time of retirement.

DEATH BENEFITS: If judge dies before retirement his heirs receive his contributions. After a judge has served 10 years he may elect to assign 1/2 of his retirement pay to his wife. At retirement he will receive 2/3 allowance and the wife shall receive 1/2 commencing on the judge's retirement or death in office until she dies or remarries.

DISABILITY BENEFITS: Any age with 10 years service, same as retirement, less than 10 years, governor may approve \$200 monthly for remainder of term.

SERVICE AFTER RETIREMENT: May be commissioner or referee of supreme court by assignment, receives expenses.

CITATION: S. D. Code of 1939, 1960 Supp, Vol. 2, Title 32, Chap. 32.15 and S. D.C.L. 1967 § 16-8-9.1 and .2.

TENNESSEE

HIGHEST COURT

Supreme Court	
Chief Justice	\$25,000
Associates	24,000

INTERMEDIATE APPELLATE COURT

Court of Appeals	
Presiding Judge	21,000
Associates	20,000
Court of Criminal Appeals	
Presiding Judge	21,000
Associates	20,000

GENERAL TRIAL COURT

Circuit Court	17,500
Chancery Court	17,500
Criminal Courts	17,500
Law Equity Courts	17,500

LIMITED AND SPECIAL COURTS

County Courts (Probate)	set locally
General Sessions Court	1,800 to 11,800
Juvenile Court	set locally
Municipal Court	set locally

COURT ADMINISTRATOR

Executive Secretary to Supreme Court	20,000
--------------------------------------	--------

BENEFITS

HOSPITALIZATION: Group policy; state and judge each pay 1/2.

VACATION: Discretionary.

HOLIDAYS: 14 days.

EXPENSE ALLOWANCE: Judges get actual expenses and 8¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: All judges of courts of record.

AGE AND SERVICE REQUIREMENTS: Minimum age is 65. Credit is given for up to 4 years in armed forces or certain elected offices if contributions to fund are kept up.

CONTRIBUTION: Judges contribute 8% of monthly salary.

RETIREMENT BENEFITS: 75% of salary at time of retirement with 24 years service or if in office on August 31, 1966 and retiring at 70 after 20 years service. Otherwise the benefit is 3 1/2% times years of service, if less than 24, times salary at retirement. Minimum is equal to or greater than salary on September 1, 1958 times 3.3% times number of years of service.

DEATH BENEFITS: Options to provide for continuation of reduced retirement benefits to surviving beneficiary.

DISABILITY BENEFITS: After August 31, 1966 any age with 10 years service, regular retirement benefits.

SERVICE AFTER RETIREMENT: May be assigned by chief justice to sit to relieve congestion or to substitute for any judge unable to attend.

CITATION: Tenn. Code Ann., Tit. 17, Chap. 3, §§ 301 through 326.

TEXAS

HIGHEST COURT

Supreme Court	\$29,000
Court of Criminal Appeals	29,000

INTERMEDIATE APPELLATE COURT

Court of Civil Appeals	26,000
------------------------	--------

GENERAL TRIAL COURT

District Court	
State Salary	20,000
Local Supplement	up to 8,000

LIMITED AND SPECIAL COURTS

County Courts (Probate)	18,500 to 22,500
Justices of the Peace	Fees

BENEFITS

HOSPITALIZATION: Group policies with optional family coverage, premiums are paid by judge.

VACATION: Supreme Court justices generally take 6 weeks.

HOLIDAYS: 12 days.

EXPENSE ALLOWANCE: District judges receive expenses while serving outside their counties. Mileage allowance is 10¢ a mile.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme Court, Criminal and Civil Appeals, and District Courts.

AGE AND SERVICE REQUIREMENTS: Any age with 18 years service, with benefits deferred to age 65, or 65 with 10.

CONTRIBUTION: 5% of salary plus \$2.00 annually.

RETIREMENT BENEFITS: With 24 years service may retire and receive benefits before age 65 at 1/2 salary. Judges who retire at or before 70 receive an additional annuity of 10% of pay. Judges with 12 years service may retire at any time with benefits commencing at 65.

DEATH BENEFITS: If he dies in office his contributions are refunded, upon retirement he can take a reduced annuity and provide for benefits to his widow on an actuarial basis. If he does not do this the balance of his contributions are refunded at his death.

DISABILITY BENEFITS: Any age after 10 years service, same as regular retirement allowance.

SERVICE AFTER RETIREMENT: Any judge may elect to remain a judicial officer and be assigned by the Supreme Court with his consent to sit on any court of the same or lower jurisdiction than that of the one he retired from, receiving the difference between his pension and the compensation of active judges of the court.

CITATION: Vernon's Civil Stats. of the State of Texas Ann., Art. 6228b, §§ 1 through 10.

UTAH

HIGHEST COURT

Supreme Court	
Chief Justice	\$20,000
Associates	20,000

GENERAL TRIAL COURT

District Court	17,500
----------------	--------

LIMITED AND SPECIAL COURTS

Juvenile Court	17,500
City Courts	
First Class	10,500
Others	5,000 to 10,500
Justices of the Peace	Fees

BENEFITS

HOSPITALIZATION: Group policy open to the judges.

VACATION: No set policy.

HOLIDAYS: 12 days.

EXPENSE ALLOWANCE: District judges receive actual expenses for serving outside their home county. Mileage reimbursed at 10¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: Supreme, District and City Courts.

AGE AND SERVICE REQUIREMENTS: 70 with 10 years service or any age with 20.

CONTRIBUTION: 7% of salary up to 7% of \$500 monthly.

RETIREMENT BENEFITS: ½ of salary to a maximum of \$500 monthly.

DEATH BENEFITS: Widow receives ½ judge's pension unless she is younger than he, then her annuity shall be an actuarial equivalent.

DISABILITY BENEFITS: Any age with 10 years service, same as retirement.

SERVICE AFTER RETIREMENT: Chief Justice or presiding judge may request service on a case by case basis, reimbursement is a per diem rate less pension plus travel.

CITATION: Utah Code Ann. 1953, Vol. 5, Tit. 49, Chap. 7 §§ 1-7.

VERMONT

HIGHEST COURT

Supreme Court
Chief Justice \$26,500
Associates 25,000

GENERAL TRIAL COURT

Superior County Court and Court of Chancery
Presiding Superior Judge 22,500
Judges 22,000
Assistant Judges per day 15

LIMITED AND SPECIAL COURTS

Probate Courts 3,050 to 10,500*
District Courts 16,000

COURT ADMINISTRATOR

State Court Administrator 19,000

BENEFITS

HOSPITALIZATION: Policies with optional family coverage available, state pays ½ judge's premium, he pays the rest.

VACATION: 2 to 4 weeks in August.

HOLIDAYS: 11 days.

EXPENSE ALLOWANCE: Judges of Supreme, County, Chancery, and District Courts receive actual expenses. Mileage reimbursement is at 8¢ per mile.

RETIREMENT PLANS

JUDGES COVERED: All judges whose salaries are paid by the state.

AGE AND SERVICE REQUIREMENTS: Normal age is 65 and compulsory at 70. May retire at 60 (men) or 55 (women) after 10 years service, or at any age after 32 years of service. Credit given for military and state service.

CONTRIBUTION: Actuarially determined.

RETIREMENT BENEFITS: Annuity actuarially equivalent to contributions plus pension equal to 1/140 of average final compensation over 5 highest years, times years of service, plus 1/70 of average final compensation times his years of prior service increased by 3 years (up to 35 years total). In addition, Supreme, Superior and District

* Compensation of probate judges supplemented by statutory fees for providing copies of court records.

judges receive a further allowance according to their years of service for a total of from 2/5 their salary at retirement after 12 years of service to full salary after 30. For each year of service after 12, 3 1/3% of salary at retirement is added.

DEATH BENEFITS: A choice of 3 optional modifications is available with additional benefits accruing to designated heirs.

DISABILITY BENEFITS: Any age with 12 years service, pension consists of regular member's annuity, plus pension equal to 9/10 regular retirement allowance, plus the additional allowance in the case of Supreme, Superior, and District judges.

SERVICE AFTER RETIREMENT: No specific provisions.

CITATION: Vt. Stats. Ann., Vol. 1, Tit. 3, Chap. 15, §§ 371 through 385.

VIRGINIA

HIGHEST COURT

Supreme Court of Appeals
Chief Justice \$27,500
Justices 25,000

GENERAL TRIAL COURT

Trial Courts of Record (Circuit, Corporation, or Hustings Courts) 20,000

LIMITED AND SPECIAL COURTS

County Courts 3,000 to 15,000
Municipal Courts —
Regional Juvenile and Domestic Relations Court 12,000 to 22,000

COURT ADMINISTRATOR

Executive Secretary of the Supreme Court of Appeals 20,700

BENEFITS

HOSPITALIZATION: State employees' group policy available to judges, at his cost.

VACATION: Discretionary.

HOLIDAYS: 4 days.

EXPENSE ALLOWANCE: Supreme Court of Appeals have option of reimbursement for mileage or a \$2,000 allowance. Judicial conference expenses are reimbursable for judges. Circuit Court judges receive actual expenses and County Court judges receive an allowance of \$1,650.

RETIREMENT PLANS

JUDGES COVERED: A. Judges of Supreme Court of Appeals. B. Circuit, Corporation, and City Courts. C. County Court.

AGE AND SERVICE REQUIREMENTS: A. 65 after 12 years service, retirement compulsory at 75 for judges achieving the bench after June 30, 1954. B. 65 with 10 years service or 62 with 25 consecutive years service. Any judge on bench after June 30, 1954 must retire at 75 and if appointed after March 1, 1962 must retire at 70. Minimum service in both cases 10 years. C. 70 after 15 years service.

CONTRIBUTION: A., B., and C. If 40 or less on taking office, 2% of salary, if 40 to 55, 2 1/2%, if above 55, 3%.

RETIREMENT BENEFITS: A. ¾ salary at retirement. B. The same. C. The same reduced by social security benefits.

DEATH BENEFITS: A. and B. Any member may choose a last survivor annuity instead of normal retirement benefits. C. No provision made.

DISABILITY BENEFITS: A. and B. Any age with no minimum, regular retirement benefits. C. Any age with 10 years service, regular retirement benefits.

SERVICE AFTER RETIREMENT: A. May be recalled to duty for a period of up to 90 days. B. May be recalled by Supreme Court to preside in Circuit, Corporation, or City Court of record for a period of not less than 90 days. C. No specific provision.

CITATION: Code of Virginia 1950, Vol. 7, 1967 Replacement Volume, Tit. 51, Chap. 2, Arts. 1, 3, 6, 7 and Chap. 2.2, Const. Art. 6 § 102-103.

WASHINGTON

HIGHEST COURT	
Supreme Court	\$27,500
INTERMEDIATE APPELLATE COURT	
Court of Appeals	25,000
GENERAL TRIAL COURT	
Superior Court	22,500
Pro tem judges	per day 90
LIMITED AND SPECIAL COURTS	
Municipal Court	
Seattle	18,000
Elsewhere if population over 50,000	minimum 9,000
Justice Courts (King, Pierce, Spokane)	2,400 to 13,333
Full Time Justice Courts	20,000
Justice of the Peace	
Where population is	
5,000 to 20,000	2,400 to 3,600
over 20,000	5,400 to 6,500
Others	Fees
Police Courts	Not reported
COURT ADMINISTRATOR	
Administrator for Courts	20,000

BENEFITS

HOSPITALIZATION: Group policies with family coverage available, premiums paid by judge.

VACATION: 1 month.

HOLIDAYS: 8 days.

EXPENSE ALLOWANCE: Superior judges receive expenses when sitting outside their district.

RETIREMENT PLANS

JUDGES COVERED: Supreme, Court of Appeals, and Superior Courts.

AGE AND SERVICE REQUIREMENTS: 70 after 10 years service, any age after 18; judge may retire after 12 years with reduced benefits commencing at 70. Retirement compulsory at age 75. Credit for service on either court and military service during term of office.

CONTRIBUTION: $6\frac{1}{2}\%$ of salary.

RETIREMENT BENEFITS: $\frac{1}{2}$ salary at time of retirement; judges who serve more than 18 years receive additional $\frac{1}{18}$ of salary for each year over 18 to a maximum of 75% of salary.

DEATH BENEFITS: Widow of judge who served 10 years receives $\frac{1}{2}$ of judge's pension provided she has been married 3 years.

DISABILITY BENEFITS: Any age with 10 years service, regular retirement benefits.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: Revised Code of Washington, Tit. 2, Chap. 2.12, §§ 2.12.010 through 2.12.070, Constitutional Provision: Amendment 25.

WEST VIRGINIA

HIGHEST COURT	
Supreme Court of Appeals	\$27,500
GENERAL TRIAL COURT	
Circuit Court	
Circuits less than 60,000	19,000
Circuits more than 60,000	17,500
Optional Supplement (total salary may not exceed)	25,000

LIMITED AND SPECIAL COURTS

County Court	540 to 9,600
Criminal Courts	} Varies 10,500 to 17,500
Domestic Relations Courts	
Intermediate Courts	
Common Pleas Courts	
Juvenile Court	
Justice of the Peace	

BENEFITS

HOSPITALIZATION: None.

VACATION: Discretionary.

HOLIDAYS: 5 days.

EXPENSE ALLOWANCE: Mileage reimbursed at 10 cents per mile.

RETIREMENT PLANS

JUDGES COVERED: Judges of courts of record.

AGE AND SERVICE REQUIREMENTS: 65 after 16 years of service or any age after 16 years with benefits commencing at age 65.

CONTRIBUTION: 6% of salary.

RETIREMENT BENEFITS: 75% of highest salary, judges retiring after 8 years service beyond age 65 receive 75% of salary at retirement.

DEATH BENEFITS: Widow of judge who served 16 years receives annuity of 40% of current salary of office.

DISABILITY BENEFITS: Any age with 12 years service, regular retirement benefits.

SERVICE AFTER RETIREMENT: May serve as special judge on any court of record except Supreme Court of Appeals.

CITATION: West Virginia Code of 1966, Vol. 2, Chap. 51, Art. 9, §§ (1) through (16) pp. 71-83 and 1969 Cum. Supp.

WISCONSIN

HIGHEST COURT

Supreme Court	
Chief Justice	\$29,000
Associates	28,000

GENERAL TRIAL COURT

Circuit Court	
State Pay	21,000
Local Supplements	up to 7,000

LIMITED AND SPECIAL COURTS

County Court	
State Pay	18,500
Local Supplement	up to 8,500
Municipal Justice Court	set locally

COURT ADMINISTRATOR

Administrative Director	23,500
-------------------------------	--------

BENEFITS

HOSPITALIZATION: Supreme and Circuit Court judges covered by group policies, state pays $\frac{1}{2}$ premium.

VACATION: No set policy.

HOLIDAYS: No set policy.

EXPENSE ALLOWANCE: Judges receive reasonable expenses. Mileage reimbursement at 10 cents a mile for the first 400 miles and 7 cents thereafter.

RETIREMENT PLANS

JUDGES COVERED: Judges of Supreme, Circuit, and County Courts and full time judges of municipal and other courts of record.

AGE AND SERVICE REQUIREMENTS: Minimum age is 55 provided credits are enough to provide an annuity of \$10 per month. Compulsory retirement of Supreme and Circuit Court judges is 70.

CONTRIBUTION: $2\frac{1}{2}\%$ of salary and $4\frac{1}{2}\%$ in excess of an amount specified as subject to withholding.

RETIREMENT BENEFITS: Actuarially determined.

DEATH BENEFITS: May be paid in the form of beneficiary annuities to judge's widow or minor children if the amount of the benefit is sufficient to provide an annuity of \$10 per month, otherwise the heirs are paid lump sum of judge's contribution, not less than \$500.

DISABILITY RETIREMENT: Any age with 5 years participation in the retirement program or immediately if disability is occupationally incurred. Annuity will not be less than annuity from additional deposits to the fund he may have made plus the lesser of (a) 50% of his final earnings or (b) 1½% final earnings times years of service including assumed service between disability and age 65. Annuity may be reduced 20% after 7 months if judge is eligible to receive Social Security primary or disability benefits. In event the amount that can be provided by judge's total retirement credits is greater than the above formula the judge may elect the former.

SERVICE AFTER RETIREMENT: Retired Supreme and Circuit judges serve as circuit judges upon assignment by chief justice; compensation is \$50 a day and expenses. In addition retired county judges may now serve upon assignment by chief justice at same rate of compensation.

CITATION: West's Wisc. Stats. Ann., Vol. 10, Chap. 66, §§ 90 through 918, pp. 112-98 and 1969 Cum. Pocket Supp.; Vol. 29, Chap. 252. § 075, p. 170; Const. Art. 7 § 24.

WYOMING

HIGHEST COURT	
Supreme Court	\$19,000*
GENERAL TRIAL COURT	
District Court	18,500*
LIMITED COURT	
Justice of the Peace.....	1,600 to 4,800**
Rural Areas	Fees
Constables	set locally
Municipal Courts	set locally

BENEFITS

HOSPITALIZATION: Policies with family coverage available, state pays \$7 per month on premium.

VACATION: No set policy but generally 1 month

HOLIDAYS: 10 plus election days.

EXPENSE ALLOWANCE: Per diem of \$13 in-state travel, \$16 out-state. Mileage allowance of 10 cents per mile.

RETIREMENT PLANS

JUDGES COVERED: Supreme and District Court.

AGE AND SERVICE REQUIREMENTS: Minimum is 65 after 18 years service in either or both courts, except service requirement is reduced one year for each year the judge is over 70. If judge has served between 6 and 18 years he is eligible for proportionately lower benefits.

CONTRIBUTION: None.

RETIREMENT BENEFITS: 40% of current salary of office; if judge has fewer years than the minimum his pension is proportion of regular allowance his total years of service bears to 18, or if he is over 70, to 18 minus judge's age less 70.

DEATH BENEFITS: None.

DISABILITY BENEFITS: None.

SERVICE AFTER RETIREMENT: Any retired justice may assist Supreme Court; any retired judge may sit on District Court; retired justices and judges may be called up to advise in matters before the legislature.

* Under Constitution Art. 5, § 17 increases during term of office are prohibited, however, when any change in personnel of any court or an additional judge is eligible to receive an increased salary, all judges or justices in same category also get it.

** Depending on population.

CITATION: Wyoming Statutes 1957, Tit. 5, Chap. 1, §§ 5-4, 5-16, and 5-47.

FEDERAL SYSTEM UNITED STATES

HIGHEST COURT	
Supreme Court	
Chief Justice	\$62,500
Associates	60,000
INTERMEDIATE APPELLATE COURTS	
U. S. Court of Appeals	42,500
GENERAL TRIAL COURTS	
U. S. District Court	40,000
Territorial Courts (Canal Zone, Virgin Islands, Puerto Rico and Guam)...	40,000
LIMITED AND SPECIAL COURTS	
Court of Claims	42,500
Court of Military Appeals	42,500
Court of Customs and Patent Appeals	42,500
Tax Court	40,000
Customs Court	40,000
COURT ADMINISTRATOR	
Director of Administrative Office of the Courts	40,000

DISTRICT OF COLUMBIA

HIGHEST COURT	
U. S. Court of Appeals for D.C.....	42,500
GENERAL TRIAL COURT	
U. S. District Court for D.C.	
Chief Justice	40,000
Judges	40,000
LIMITED AND SPECIAL COURTS	
D. C. Court of Appeals	
Chief Judge	29,000
Judges	28,500
D. C. Court of General Sessions	
Chief Judge	28,000
Judges	27,500
Tax Court	23,500
Juvenile Court	
Chief Judge	28,000
Judges	27,500

BENEFITS

HOSPITALIZATION: Covered by government health programs, premiums are shared.

VACATION: Not to exceed one month.

HOLIDAYS: Generally correspond to those observed in the place where the court sits.

EXPENSE ALLOWANCE: Judge reimbursed for official travel for actual expenses of \$30 per day or a per diem of \$16. Mileage allowance is 10 cents per mile.

RETIREMENT PLANS

JUDGES COVERED: Any justice or judge of the United States appointed to hold office during good behavior.

AGE AND SERVICE REQUIREMENTS: 65 after 15 years service, or 70 after 10, judges who retire after age 70 with at least 10 years service are eligible for certain retirement benefits.

CONTRIBUTION: None.

RETIREMENT BENEFITS: Salary of the office from which he retired. Territorial judges receive that portion of their salary at retirement that total years of service bears to 16.

DEATH BENEFITS: Widow of a justice receives an annuity of \$5,000 per year. Widow of a judge may receive an annuity of up to 37½% of his average final salary. Such annuity depends on the judge having made a 3% of salary contribution to the "judicial survivor's annuity fund."

DISABILITY BENEFITS: Any age with 10 years service full current salary, if less than 10 years service ½ that amount. Judges of territorial courts with 16 years service receive full current salary, if he has served between 10 and 16 years he receives the proportion of his salary which the number of his total years service bears to 16. Such annuity commences at age 65.

SERVICE AFTER RETIREMENT: Judges appointed for life tenure retire only from active service and retain their office and may be assigned to judicial service by the administrative head of the court.

CITATION: U. S. C. A., Title 28, Chap. 17 §§ 371 through 376.



calendar

PUERTO RICO

HIGHEST COURT

Supreme Court	
Chief Justice	\$27,500
Associates	27,000

GENERAL TRIAL COURT

Court of First Instance	
Superior Court*	22,900

LIMITED COURTS

District Courts*	17,000
Justice of the Peace**	3,000 to 4,000

COURT ADMINISTRATOR

Administrative Director of the Courts	22,900
--	--------

BENEFITS

HOSPITALIZATION: Group policies with family coverage available. Premiums paid by Commonwealth.

VACATION: 30 with 60 days for sick leave.

HOLIDAYS: 18 holidays.

EXPENSE ALLOWANCE: Reimbursement for travel expenses for meetings concerning administration of justice. Mileage allowance is 11 cents per mile and 1 cent for each official passenger. Per diem, according to salary, paid to judges for official business outside residence.

RETIREMENT PLANS

JUDGES COVERED: Supreme, Superior, and District Courts.

AGE AND SERVICE REQUIREMENTS: 60 after 10 years service, deferred benefits available for retirement before 60 after 10 years service. Retirement allowed at 59, 58, 57 with 23, 24, 25 years of service respectively. Retirement mandatory at 70.

CONTRIBUTION: 7½% of salary.

RETIREMENT BENEFITS: 25% of average salary over last 5 years plus 25/72 of one percent of his average salary for each month of service over 10 years not to exceed ¾ of average salary.

DEATH BENEFITS: Any judge may choose a reduced benefit of not less than \$120 a year to provide his widow with a pension which is the actuarial equivalent of the pension the judge was entitled to before electing the option. If judge dies in active service, his heirs receive his contributions to pension fund and a lump sum equivalent to his annual salary. In event of death after retirement, his heirs receive his surplus contribution.

DISABILITY BENEFIT: Any age with 10 years service, pension equal to ¾ of regular annuity at age 60 reduced by any other compensation or insurance he receives.

SERVICE AFTER RETIREMENT: No specific provision.

CITATION: Laws of P.R. Ann., Vol. 1, 1959 Cum. Pocket Supp. Title 4, 233-46 pp. 165-176.

* These courts are divisions of the Court of First Instance: District Court has limited civil and misdemeanor jurisdiction and Superior Court has jurisdiction over all other civil and criminal matters.

** Raise in salary every two years of service, \$300 per annum up to \$4,800.

American Judicature Society Meetings

January 28-29, 1971 Missouri Nominating Commissioners Institute, Kansas City, Missouri

February 8, 1971 Midyear Meeting Palmer House, Chicago, Illinois

March 11-14, 1971 National Conference on the Judiciary Williamsburg, Virginia

April 28, 29, 30, 1971 New Jersey Citizen's Conference Cherry Hill, New Jersey

July 1971 Annual Meeting New York City

February 1972 Midyear Meeting New Orleans, Louisiana

August 1972 Annual Meeting San Francisco, California

Trial Judges' Seminars of the National College of State Trial Judges

February 15-19, 1971 Chief Justices and Judges Court Administration Conference on the Metropolitan Courts, Williamsburg, Virginia

April 14-16, 1971 Virginia Judicial Conference Hot Springs, Virginia

May or June 1971 Florida Judicial Conference

June 1971 Institute of Court Management University of Denver Law Center Denver, Colorado

August 1971 South Carolina Judicial Seminar Columbia, South Carolina



Merit Selection for Indiana; Seven States Achieve Significant Reforms

Judicial reform had a banner year in 1970, as seven states adopted major improvements. The highlights of the November election were the adoption of merit selection in Indiana and a merit-based plan for some Maryland judges.

The details:

Indiana

Indiana voters have overwhelmingly approved a judicial amendment including merit selection for all appellate judges.

The proposition carried the November 3 election with more than 55% of the vote.

Justices of the supreme court and judges of the new court of appeals will be appointed by the governor from a list of three nominees submitted by a seven-member non-partisan commission. The appointee will then run for retention after two years of service and every ten years thereafter.

The nominating commission, which will also serve as the judicial qualifications commission, will consist of three attorneys elected by the bar, three non-attorneys appointed by the governor, and the chief justice of the supreme court. No appointed commissioner shall hold any salaried public office or any office in a political party or organization.

The commission has the duty to seek out individuals with extraordinary legal skills, judicial temperament, and personal integrity. Each person nominated by the

commission must either have been admitted to the practice of law for ten or more years or shall have served as a trial judge for five or more years.

Except for justices of the peace, who are no longer constitutional officers, the amendment does not affect the trial courts.

The appellate courts will be reorganized into a supreme court and a multi-district court of appeals, the exact arrangement of which shall be determined by the legislature.

The amendment also provides for the nominating commission to serve as a judicial qualifications commission to retire or remove appellate judges who are unable or unwilling to perform their responsibilities. Trial court judges remain subject to the old law, whereby removal can occur only upon impeachment by the legislature after conviction of corruption or other high crime.

This ratification of Constitutional Amendment No. 2 was a great victory for the Indiana Citizens for Modern Courts of Appeal, which with the American Judicature Society, the League of Women Voters of Indiana, and the Indiana State Bar Association, sponsored the Second Citizens' Conference on Indiana Courts, July 23-24, 1970. (November, 1970, *JUDICATURE*, p. 169).

Indiana thereby becomes, as of the effective date of the amend-

ments — January 1, 1972 — the 20th state to adopt merit selection.

Maryland

Judicial reform in Maryland, considered dead after its excellent proposed constitution was defeated in May 1968, came back in fine style on November 3, 1970.

The voters adopted new provisions reorganizing the lower courts, adding a merit-based system for selecting district court judges. The machinery for removing unfit judges was also improved.

Part of the impetus for reform came from the Citizens' Conference on Maryland Courts and Justice, which was co-sponsored by the American Judicature Society at Annapolis, September 5-6, 1969, (March, 1970, *JUDICATURE*, p. 347).

Under the new district court appointment system, the governor appoints judges, subject to confirmation by the state senate. At the end of the term, the governor is required to renominate the same judge, and the senate decides whether to reconfirm.

The merit selection feature was added in July when Governor Marvin Mandel announced at an American Judicature Society breakfast that he had issued executive orders establishing judicial nominating panels, subject to the approval of the amendment.

The appointment panels will consist in equal numbers of law-

yers elected by the bar and laymen appointed by the governor, with a chairman also appointed by the governor.

Maryland has retained the previous appointment system for other judges, whereby the governor appoints the judge, but the appointee must face a contested election for a full term at the next election.

Maryland has had a judicial removal commission since 1966, but judges could be removed only by the general assembly. The legislature will retain this impeachment power, but the Commission on Judicial Disabilities will now report on disabled or unfit judges to the court of appeals, which has the ultimate removal authority.

The third change sets up a uniform district court system to replace the present lower courts.

There were reform actions in these other states in 1970:

Alaska

Alaska adopted two major reforms in the administration of its courts in a referendum on August 25, 1970, by margins of more than 2 to 1.

The office of chief justice of the Supreme Court of Alaska will now be rotated every three years and filled by vote of the members of the court. While a chief justice may serve more than one term, such terms may not be consecutive. The appointment was previously made by the governor for an unlimited term.

The administrative director of the courts will now serve at the pleasure of the entire court, instead of only the chief justice.

Arizona

A modern judicial qualifications commission was established in Arizona as the result of a November 3, 1970, referendum.

The new commission eliminates the cumbersome requirement of recall election and impeachment, the only methods earlier available to remove a judge. It will have nine members—judges, lawyers, and laymen—who will serve without pay. Upon information or complaint, it will investigate charges against allegedly unfit judges and report to the supreme court.

The voters also approved creation of a commission to recommend changes in the rate of pay of elective state officials, including judges.

Arkansas

The proposed new constitution for Arkansas lost at the polls on November 3, 1970, carrying several judicial reforms to defeat.

The new judicial article would have unified the lower courts, created a court of appeals, abolished separate courts of law and equity, granted rule-making power to the supreme court, put judges on a non-partisan ballot, and established a judicial retirement and disability commission.

District of Columbia

A commission on judicial disabilities and tenure, approved by Congress in July, will take effect on February 1, 1971. It will consist of five members and has been given rule-making powers. A decision of the commission will be appealable to a special court of three federal judges.

Florida

A judicial article which would have simplified the Florida court structure, enlarged the powers of the judicial qualifications commission, and provided for adoption of merit selection of judges by legislative action was narrowly defeated on November 3, 1970.

The article was the end result of a 1964 citizens' conference, co-sponsored by the American Judicature Society, and a constitutional revision commission. The recommendations had, however, been so greatly altered in the legislature that the Florida Bar had refused to endorse the final proposal, and the circuit judges association had actively opposed it.

The various interested groups are already working together to prepare a new article for future submission.

Idaho

The voters of Idaho defeated a proposed new constitution, containing important judicial changes, on November 3, 1970.

The judicial article would have provided a federal-type system of judicial appointment for the supreme court and allowed the legislature to adopt a similar system for district courts. It would have created a unified court system supervised by the supreme court, with the chief justice as administrative head, given rule-making powers to the supreme court, and spelled out the limitations of the 1967 act establishing a judicial qualifications commission.

Missouri

In addition to the adoption of



merit selection in St. Louis County (November 1970, *JUDICATURE*, p. 109), the voters of Missouri adopted a statewide judicial qualifications commission on August 4, 1970.

The six-member commission will consist of two lawyers selected by the Missouri Bar, two non-lawyers appointed by the governor, one appeals judge elected by all appeals judges, and one circuit judge elected by all circuit judges.

The commission can recommend to the supreme court the removal of any judge or magistrate who is unable to perform his duties or who has demonstrated unfitness to hold judicial office. Four members must concur in any such recommendation.

North Dakota

The voters selected 98 delegates to the 1972 constitutional convention in balloting on November 3, 1970.

Committees will be organized on April 7, 1971, and hold hearings until the 30-day regular convention session opens on January 4, 1972.

Nebraska

Three amendments approved on November 3 will remove justices of the peace as constitutional officers and permit establishment of a unified state court system, require redistricting of supreme court districts every 10 years, and permit assignment of retired judges to temporary duty.

Texas

An extension of the judicial qualifications commission, adopted in

1965 and patterned after the California plan, to virtually all the courts of Texas was adopted by a vote of more than 2 to 1 on November 3, 1970.

The amendment makes it possible for the legislature to make further extensions as it sees fit.

Virginia

Virginia adopted a new judicial article as part of a general constitutional referendum by an overwhelming margin on November 3, 1970.

The changes give the general assembly the authority to create a judicial inquiry and review commission with jurisdiction over most state judges, the state corporation commission, and other personnel exercising judicial functions.

Judge Joseph A. Sullivan Elected President of Metropolitan Courts Group

The ninth annual meeting of the National Conference of Metropolitan Courts was held at Miami Beach, October 21-23, 1970.

The Conference was established in 1962 to assist judges in the largest courts in the nation. While there are no formal requirements, attendance is traditionally limited to judges from jurisdictions of over 800,000 persons. The 1970 session was attended by more than 80 persons from 32 courts.

At the close of the session, Judge Joseph A. Sullivan of Detroit was elected president of the Conference, and Justice William B. Groat of Jamaica, New York, was named chairman of the executive committee. Justice Tom C. Clark of Washington, D.C., will continue as hon-



JUDGE SULLIVAN



JUSTICE GROAT

orary chairman.

Other officers are Judge Raymond J. Arata of San Francisco, first vice president; Justice John V. Corrigan of Cleveland, second vice president; and Dean Laurance M. Hyde, Jr., of Reno, Nevada, secretary.

In addition to Mr. Justice Clark, Justice Groat and the immediate past president, Judge William A. Herin of Miami, the executive committee will consist of Judge John S. Boyle of Chicago, Judge William J. Wilkins of Seattle, Justice G. Joseph Tauro of Boston, Judge Lewis Dickson of Houston

and Judge Kenneth N. Chantry of Los Angeles.

Mr. Justice Clark, retired associate justice of the Supreme Court of the United States, opened the conference by reporting on his experiences on the federal trial bench in San Francisco. He blamed crowded dockets on archaic file systems, indifferent and poorly trained courthouse personnel, and on lawyers who file long, dilatory pleadings and who are unprepared to argue the law. He suggested more and better court administrators, greater use of computer technology, and training programs for courtroom clerks.

He also questioned the most common answer to court congestion, saying, "We do not need more judges. We have been 'putting on more men' for years, and we are as far behind as ever. What we need is better management."

The other featured speakers were Judge David W. Dyer of Miami, judge of the United States Court of Appeals for the Fifth Circuit, and United States District Judge Frank J. Murray of Boston.

Judge Dyer discussed the relationship between state and federal courts. He found two problem areas—the lack of independence of state court judges, and conflicting decisions caused by the overlapping jurisdiction of the two systems.

He called for the elimination of politically elected judges by adoption of plans for merit selection and urged judges of both systems to work together to expand the role of the state courts.

Judge Murray talked about the

challenges faced by the courts as a "new breed of apostles of unrest" attacks the dignity of the courts. He outlined recommendations for handling possible contempt of court and cautioned his audience to remember that the goal of any trial is "to reach a definitive conclusion of the matter at hand," and not to exact revenge for insults to the court.

The primary topics were court management, automobile insurance plans, and methods to increase the prestige and effectiveness of the trial bar.

Participating as speakers, in addition to Judge Boyle, Dean Hyde, Judge Dickson, and Judge Chantry, were Judge Horace W. Gilmore of Detroit, Edward C. Gallas of New York, Judge Walter J. McLaughlin of Boston, Delmar Karlen of New York, Walter H. Beckham, Jr., of Miami, Ernest C. Friesen, Jr., of Denver, and William B. Eldridge of Washington, D.C.

The next conference will be held during October, 1971, in Detroit.

Michigan Decision Advances Concept of Unified Court

A judicial decision destined to become a landmark in the field of court administration and judicial independence has been handed down by the Supreme Court of Michigan. The court held that a court has the inherent power to bind the state or the county contractually when an expenditure is necessary to exercise its judicial powers.

The case, *Judges for Third Judicial Circuit v. County of Wayne*,

et al, 172 N.W. 2d 436 (1969) is an important advance in the concept of the unified court in Michigan and in other states.

The court held that *irrespective of the statute on the subject*, a judicial assistant of the type contemplated by the statute is a practical necessity for the effective continuing operation of a metropolitan circuit court consisting of 27 judges and that the Circuit Court had *inherent* power to hire such staff as it needed.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (Act of October 23, 1962; Section 4369, Title 39, United States Code)

1. Date of filing: September 28, 1970.
 2. Title of publication: *Judicature*, The Journal of the American Judicature Society.
 3. Frequency of issue: Ten times yearly; monthly except for June-July and August-September.
 4. Location of known office of publication: 1155 East 60th Street, Chicago, Illinois 60637.
 5. Location of the headquarters or general business offices of the publishers: Same.
 6. Names and addresses of publisher, editor, and managing editor: Publisher: American Judicature Society, 1155 East 60th Street, Chicago, Illinois 60637; Editor: Glenn R. Winters, same; Managing Editor: Willis R. Fribler, same.
 7. Owner: American Judicature Society, 1155 East 60th Street, Chicago, Illinois 60637.
 8. Known bondholders, mortgagees, and other security holders owning or holding one percent or more of total amount of bonds, mortgages or other securities: None.
 9. For completion by nonprofit organizations authorized to mail at special rates: The purpose, function and nonprofit status of this organization and the exempt status for Federal income tax purposes have not changed during preceding 12 months.
 10. Extent and nature of circulation (first figure in each category is average number of copies of each issue during preceding 12 months; second figure is actual number of copies of single issue published nearest to filing date):
 - A. Total number of copies printed (net press run): 54,325; 52,600.
 - B. Paid circulation:
 1. Sales through dealers and carriers, street vendors and counter sales: None; none.
 2. Mail subscriptions: 46,000; 46,600.
 - C. Total paid circulation: 46,000; 46,600.
 - D. Free distribution by mail, carrier, or other means: 4,400; 4,700.
 - E. Total distribution: 50,400; 51,300.
 - F. Office use, left over, unaccounted, spoiled after printing: 3,925; 1,300.
 - G. Total: 54,325; 52,600.
- I certify that the statements made by me above are correct and complete.
CLARETTE P. BEIN, Editorial Assistant

The AMERICAN
JUDICATURE
SOCIETY-1913



To Promote the Efficient
Administration of Justice

MARTIN A FARRELL JR 7
542 2ND AVE 71
ANCHORAGE ALASKA 99501

Fifty-Eighth Midyear Meeting



Chicago, Illinois

The Palmer House, Red Lacquer Room

8 A.M. Monday, February 8, 1964

Tickets at \$5.00 each may be purchased at the door.



THE AMERICAN JUDICATURE SOCIETY

1155 East Sixth Street • Chicago, Illinois 60617

MOBILE AND MODULAR HOMES FOR COLD REGIONS

DAVID SCHAEFER

The Federal government has estimated that 27 million new homes will be needed in the next 10 years. Presently, the home construction industry is capable of building about 1.8 million homes per year, or 18 million in the next 10 years. If this were the only method of production America could expect a shortage of 9 million homes by 1980, but fortunately the mobile and modular home industries can offer some help. Washington recently forecasted that by 1980 one in every five Americans will be living in a factory-built home.

Alaska is in a more desperate situation than most other states. A significant portion of its population lives in substandard homes and the State's growth rate is higher. Anchorage quadrupled its population between 1950 and 1960, while the Fairbanks population tripled during these same years. Such growth rates are not uncommon for other Alaskan cities and show no signs of decreasing. In some cases they are increasing. During the month of October 1970 there were 1,334 homes under construction in Anchorage. The role of factory-built homes is becoming more important. Anchorage added 750 new mobile home spaces to existing and new mobile home courts in 1970; all these spaces are presently filled.

Instant Housing

What can factory-built housing offer? First and foremost it can fill the gap between housing needs and capabilities. Secondly, it can offer substantial savings in initial cost. And thirdly, it is in effect "instant housing" which is important to Alaskans since they face short construction seasons: A factory works year-round and can ship homes any place on demand.

Factory processes enable a company to assemble a home much faster than a normal contractor could put up a "stick built" one. On an assembly

line it is not uncommon for a 12 x 60 mobile home to be built in as few as 200 man-hours. Some large companies in California produce 20 million square feet of building per year, equivalent to 20,000 homes of 1,000 square feet, or enough to give every family in the Fairbanks area a new home in one year.

Mobile and Modular

The zenith of factory-built homes are the modular and mobile homes. This industry is one of the fastest growing in the United States, building homes that require minimal on-site preparation. The mobile home only requires hookup of outside electrical, water and waste systems. The modular home requires these three features plus a foundation. A mobile home can be set up in a matter of hours, while the modular home requires a couple of days.

The mobile is basically a rectangular box space frame. Most manufacturers build these up to 14 feet wide and 68 feet long, generally the maximum allowable size due to transportation restrictions. The double-wide is a third type of finished factory home which might be mentioned here. This is merely two mobile homes bolted together at the home site, affording more living space. It is built to the same specifications as the normal mobile home, usually those of the Mobile Home Manufacturers Association sponsored ASA 119.1.

The modular home is in effect a "stick built" factory home. It must conform to all local building codes, and in some ways is better constructed than a "stick built" since it must stand up during transportation to the home site. Modular units are also popular for apartments, town houses and motels. When used in these capacities they must meet local building and fire codes for multifamily dwellings.

Design Limitations

Housing is one of the few commodities that is not mass produced, but if Alaskans are to receive the adequate housing they need they must rely at least partially on factory-built homes. At the same time they must insist the homes meet the basic requirements for the State's special climatic conditions. The most economical structure is not necessarily the one with the lowest initial cost. The actual cost depends on the initial cost plus the cost of maintaining the structure throughout its useful life.

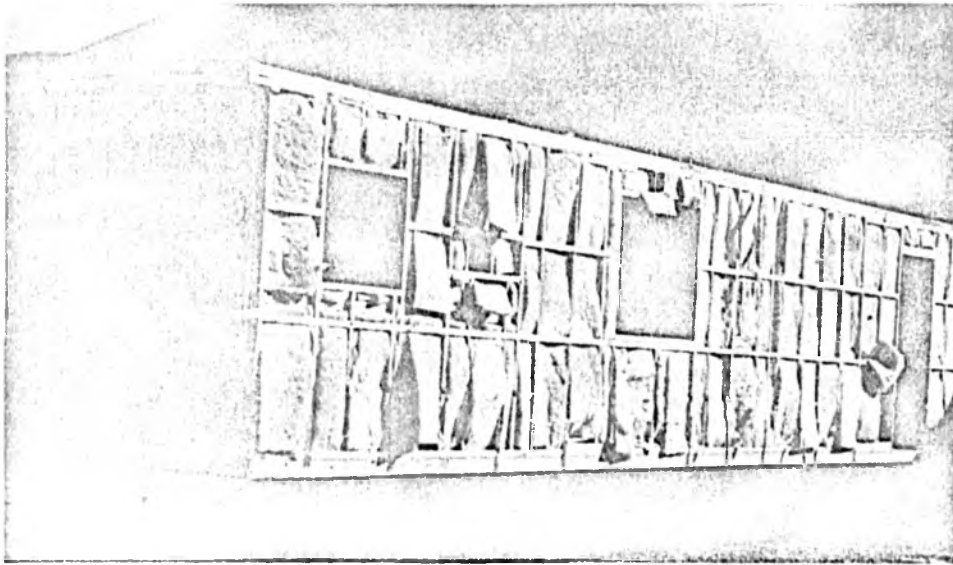
For a home to function properly in an Arctic or subarctic climate, certain aspects of design must be given greater importance by the builder. For instance, large furnaces capable of keeping the unit comfortable at 50 degrees below zero are necessary, as are roofs capable of withstanding 30 and 40 pounds per square foot snow loads.

One of the largest problems of factory-built homes rises from the reluctance of manufacturers to design special units for the relatively small market potential of cold regions. There is currently a mobile and modular home factory in Palmer, Alaska. Hopefully this factory will build exclusively for boreal environments.

Construction

Mobile homes generally have 2 x 3 wall construction with 1 to 2½ inches of fiber glass insulation. The interior wall is 3/16 to 1/4 inch prefinished paneling and the exterior is 0.019 inch aluminum sheeting. The maximum insulating quality of such a wall is R=10, with most mobile homes having an R=5 insulating factor. In Interior Alaska, however, it is almost mandatory that walls have at least an R=15. Four inches of fiber glass insulation give an R=16 insulating factor. Modular homes generally have a 2 x 4 wall construction with plasterboard and prefinished paneling on the interior, and plywood or siding on the exterior. These homes have 3½ inches of insulation, sufficient for cold regions.

A mobile home generally does not have a vapor barrier on the interior



Typical mobile home prior to installation of exterior finish. Insulation thickness 1-1/8", no vapor barrier, and insulation is not stapled to studs.

side. In fact many manufacturers put a vapor barrier on the exterior wall. A vapor barrier is to intercept moisture as it passes through the interior wall, for if it is allowed to condense within the insulation ice or frost will form, considerably reducing the insulating quality of the wall and causing other problems when the ice melts. In cold regions the difference in vapor pressure between the interior and exterior of a structure can be nearly 1/2 pound per square inch. Ventilation can help reduce the vapor problem, but ventilation is insufficient when outside temperatures are below -25°F. Modular home manufacturers generally put vapor barriers on the warm side of the structure. They seem to have more flexible assembly line processes that allow modifications for climatic conditions.

Another area of importance to cold region home owners is the heating system installed in the units. Here again, modular home builders can furnish almost any kind and size heater. Mobile home manufacturers on the other hand are restricted; only a few companies make heating units especially for mobile homes. It is not uncommon for homes to be shipped to Alaska with insufficient heating capacity. With an outside air temperature of -50°F and an inside temperature of +70°F, an R=10 wall will transmit about 12 BTU/HR/ft². If there are 4

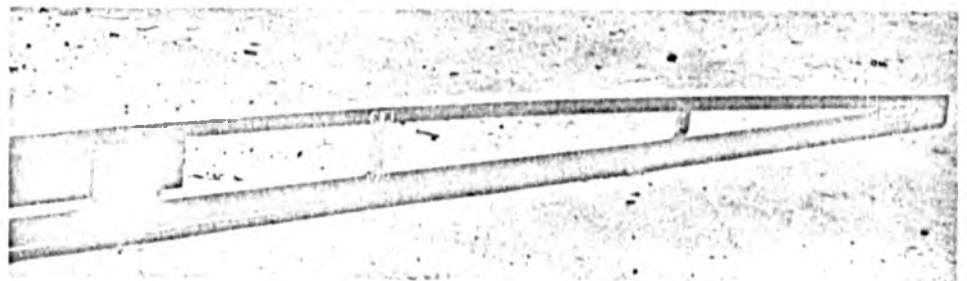
air changes per hour the heating requirement for a home with 3,000 square feet of wall space will be about 110,000 BTU/hr. The largest furnace provided for mobile homes is about 85,000 BTU/hr. Hence, on those days when the temperature is extremely cold the home owner can expect some discomfort. Also, there is increased fire hazard from overworking a furnace. Every effort should be made by dealers and customers to insure that the furnace of the home is of adequate size.

Design criteria for snow and wind loads generally call for 30 pounds per square foot for most of Alaska. There are some areas, notably around Valdez, where snow loads are considerably higher. But the Mobile Home Manufacturers Association sponsored code only recommends roof truss design for 20 pounds per square foot. This inadequate feature has caused

some problems in the Fairbanks area this winter. Several new mobile home roofs collapsed due to excessive snow. Others were near collapse, but the owners removed the snow before permanent damage occurred. Modular homes generally call for roof truss design of 40 to 55 pounds per square foot live load.

When constructing a normal "stick built" home the builder normally covers the studs with plasterboard, or some other fire retardant material. Mobile homes, however, do not use this method and hence have a tendency to burn very fast when they happen to catch fire. Exits from mobile homes are often limited also. The manufacturer is required to put in a second door for the fire exit but this is normally a metal clad mobile home door. During the winter months these doors often frost shut, or the home owner covers them to prevent frosting. In any event, during the time of greatest fire hazard there is often only one usable exit from the home. The furnaces are generally in the middle of the home and should a person be caught in a back bedroom when a fire starts he has very little time to get out. Although some manufacturers are using a fire retardant prefinished panel for interior finishing, they are unfortunately in the minority.

These are some examples of the special considerations manufacturers of factory-built homes must take if they are going to supply a product suitable to cold regions. Consumers, as well, must demand their new homes have as many arctic features as possible. They must also consider a mobile or modular home a perma-



Bow truss used in mobile homes. Design calls for only 20 psf snow load.

January 18, 1972

Allan A. Engstrom, Esquire
Davidson, Engstrom & Evans, Attorneys
201 National Bank of Alaska Building
Juneau, Alaska 99801

Re: H.B. 358 - Relating to Hospitals

Dear Allan:

I have your letter of January 12 concerning your wish to be heard, as the representative of Blue Cross Washington-Alaska, on the subject bill. This bill is still in the committee of first referral (Commerce) and will not be in this committee until reported back to the House.

You may wish to request Representative Kerttula that you be heard by Commerce. In any case, I will be happy to have your presentation when, and if, the bill reaches Judiciary.

Sincerely,

William J. Moran

cc: Representative Kerttula

DAVIDSON, ENGSTROM & EVANS

ATTORNEYS AT LAW

JUNEAU, ALASKA 99801

C. GIRARD DAVIDSON
ALLAN A. ENGSTROM
GORDON E. EVANS

201 NATIONAL BANK OF ALASKA BUILDING

TELEPHONE 586-1445

January 12, 1972

Hon. William Moran
Chairman, House Judiciary Committee
State Capitol Building
Juneau, Alaska 99801

Re: H. B. 358

Dear Bill:

On April 1, 1971, I advised you by letter that I represented Blue Cross Washington Alaska, Inc., and that we had a special interest in H. B. 358, which is in your committee. We would again appreciate the opportunity to appear before your committee prior to any action on the bill. We will be prepared to appear before your committee at your convenience.

Yours very truly,



ALLAN A. ENGSTROM

AAE:rhm

Commerce
3/26/71

HB-363

Staff Report: Nebraska and New York have laws identical in substance to the proposal. In Nebraska the level is 0.10% and in New York it is 0.15% (reduced to 0.12% in 1971).

11. COMBINED INFLUENCE OF ALCOHOL AND DRUGS

Subcommittee Recommendation: Add a new section to the Code making it unlawful for a person to drive while under the combined influence of alcohol and any drug.

Summary of Deliberations: At the 1968 meeting, the Subcommittee reaffirmed its earlier approval of the proposal in principle. However, certain evidentiary problems, such as the presumption of non-intoxication when the blood alcohol level is under 0.05%, were noted in conjunction with adopting a provision on the combined use of alcohol and drugs. Thus, the proposal was tabled for the purpose of a thorough review by the staff concerning any possible difficulties that must be overcome in enforcing such a law.

At the 1970 meeting, the staff reiterated its opinions on this proposal and amplified its report on state laws. The major difficulty with such a law was determined to be the absence of any accurate testing methods to show the presence of drugs or the effect on a person of the combined use of drugs and alcohol. From that standpoint there would be no more difficulty with the proposal than with the large number of existing laws on driving under the influence of drugs alone. It was noted that the NHTSA is currently studying drug use by drivers and is concerned about the difficulty in obtaining convictions under laws designed to combat the problem of drugs and driving.

A motion to amend the proposal by adding express definitions of what constitutes a drug was defeated. A motion to approve the proposal was passed unanimously.

Amendment that was offered was too indefinite - not so much that it didn't need a definition of drug.

There is ample evidence that the combination of alcohol and certain kinds of drugs such as barbiturates or other central nervous system depressants can seriously impair mental and physical functions even when neither substance, alone, is ingested in sufficient quantity to cause any adverse effects. Obviously, then, such combinations are particularly dangerous from the standpoint of operating a motor vehicle and have been so recognized by the legislatures of five states whose laws have been amended to prohibit driving under the combined influence of alcohol and a drug. These laws provide:

California -- "It is unlawful for any person who is under the influence of intoxicating liquor, or under the combined influence of intoxicating liquor and any drug, to drive a vehicle upon any highway."

Connecticut -- prohibits the operation of a motor vehicle while under the influence of intoxicating liquor or any drug, or both.

Iowa -- prohibits operation of a motor vehicle on the highway while in an intoxicated condition or under influence of narcotic and/or hypnotic drugs or a combination of such drugs and alcohol.

Massachusetts -- prohibits operation of a motor vehicle "while under the influence of intoxicating liquor or narcotic drugs, as defined in section 197, ch. 94, or under the influence of barbiturates, amphetamines, or other hypnotic or somnifacient drugs, or under the influence of the vapors of glue, carbon tetrachloride, acetone, ethylene dichloride, toluene chloroform, xylene or any combination thereof."

Minnesota -- "It shall be unlawful . . . for any of the following persons to drive, operate or be in actual physical control of any vehicle within this State:

- (a) A person who is under the influence of an alcoholic beverage or narcotic drug;
- (b) A person who is an habitual user of narcotic drugs;
- (c) A person who is under the influence of a combination of any two or more of the elements named in subsections (a) and (b)."

Even without the existence of such express statutes, however, several courts have held that a person operating a motor vehicle while under the combined influence of alcohol and a drug is guilty of driving while under the influence of intoxicating liquor if there is evidence showing that his ability to drive, although partially impaired by the use of a drug, is also adversely affected by the consumption of an alcoholic beverage. Several factors should be considered in determining whether to prosecute a person for driving while under the influence of a drug, or both: the nature of the drug involved, the extent of use of the drug and the alcoholic beverage, the wording of the applicable laws, state rules on criminal procedures, interpretative court decisions and applicable constitutional provisions. Some interesting legal questions raised in this connection are:

(1) Can a person charged with driving while under the influence of intoxicating liquor, and found not guilty by reason of being exclusively under the influence of a drug, be re-charged and re-tried for having driven while under the influence of a drug, presuming, of course, that it is unlawful to drive while under the influence of the particular drug used by that person? The answer would depend to a large extent on the interpretation of the law or laws involved and state constitutional provisions on "double jeopardy." The issue would have to be similarly resolved if a person were charged with driving while under the influence of a drug and it was shown during the trial that he was exclusively under the influence of intoxicating liquor.

(2) Can an indictment or complaint allege in one count that the person was driving while under the influence of intoxicating liquor and allege in a second count that the person was driving while under the influence of a drug?

(3) What is the legal effect of a low blood-alcohol ratio under a chemical test law when the person has consumed both liquor and drugs? If the law contains the same chemical test provisions as the Code, for example, a blood alcohol ratio of less than 0.05 percent would give rise to the presumption that the defendant was not under the influence of intoxicating liquor and, therefore, further evidence would have to be introduced to rebut that presumption.

Staff Survey

The staff has contacted enforcement and administrative personnel in each of the states with a comparable law to determine what major difficulties are encountered. The response ranged from enthusiastic (California) to unfavorable (Massachusetts).

In California it was determined that prosecutions for driving while under the combined influence of alcohol and drugs are instituted when preliminary investigation reveals the probability that simple drunk driving charges will not be successful, and, at the same time, evidence as to the use of drugs will not sustain a finding that the defendant was "incapable of driving safely." Officials in that state report a large number of convictions for driving under the combined influence without any special problem for prosecutors to overcome. It should be noted, however, that California does not establish presumptions for blood alcohol since it omits a law comparable to UVC § 11-902(b).

2. CONSOLIDATION OF ARTICLE 9 OFFENSES

If the National Committee approves the recommendations in the prior two items, two new sections would be added to Article 9 of Chapter 11 -- one dealing with an unlawful alcohol-blood level and a second dealing with alcohol-drug driving.

Because this article already has sections numbered 11-902, 11-902.1 and 11-902.3, merely adding these two sections would create two more sections having a decimal (11-902.4 and 11-902.5). To avoid renumbering problems and to consolidate the four offenses, the staff recommends the following draft:

§ 11-902 -- Drivers with ability impaired by alcohol or drugs

(a) A person shall not drive or be in actual physical control of any vehicle while:

1. There is 0.10% or more by weight of alcohol in his blood;
2. Under the influence of alcohol;
3. Under the influence of any drug to a degree which renders him incapable of safely driving; or

4. Under the combined influence of alcohol and any drug to a degree which renders him incapable of safely driving.

(b) The fact that any person charged with violating this section is or has been legally entitled to use a drug shall not constitute a defense against any charge of violating this section.

(c) Every person convicted of violating this section shall be punished by imprisonment for not less than 10 days nor more than one year, or by fine of not less than \$100 nor more than \$1,000, or by both such fine and imprisonment. On a second or subsequent conviction he shall be punished by imprisonment for not less than 90 days nor more than one year, and, in the discretion of the court, a fine of not more than \$1,000.

The above draft would replace existing §§ 11-902(a), 11-902.1 and 11-902.2 and would incorporate the two new provisions. Section 11-902.2(b) would be deleted because license revocation is and should be covered in UVC Chapter 6. Also deleted are the portions of existing § 11-902.1 dealing with habitual users of narcotic drugs and persons under the influence of narcotic drugs. The latter category of persons is adequately covered by draft § 11-902(a)3. As to driving by habitual users, the staff suggests that draft § 11-902(a)3 should also be adequate and there is no need to continue this prohibition.

The Subcommittee recommendation would additionally require changes in several other Code sections to reflect the changes made in § 11-902. Thus the Code's chemical test provision would be revised and repositioned, and Code §§ 6-205, 6-205.1 and 16-105 would require revision as follows:

§ 11-902.1 -- Chemical tests

(a) Upon the trial of any civil or criminal action or proceeding arising out of acts alleged to have been committed by any person while driving or in actual physical control of a vehicle while ability was impaired by alcohol or drugs, evidence of the amount of alcohol or drug in a person's blood at the alleged time, as determined by a chemical analysis of the person's blood, urine, breath or other bodily substance, shall be admissible. Where such a chemical test is made the following provisions shall apply:

1. [(c)] Chemical analyses of the person's blood, urine, breath, or other bodily substance to be considered valid under the provisions of this section shall have been performed according to methods approved by the State department of health and by an individual possessing a valid permit issued by the State department of health for this purpose. The State department of health is authorized to approve satisfactory techniques or methods, to ascertain the qualifications and competence of individuals to conduct such analyses, and to issue permits which shall be subject to termination or revocation at the discretion of the State department of health.

2. [(d)] When a person shall submit to a blood test at the request of a law enforcement officer under the provisions of § 6-205.1, only a physician or a registered nurse (or other qualified person) may withdraw blood for the purpose of determining the alcoholic content therein. This limitation shall not apply to the taking of breath or urine specimens.

3. [(e)] The person tested may have a physician, or a qualified technician, chemist, registered nurse, or other qualified person of his own choosing administer a chemical test or tests in addition to any administered at the direction of a law enforcement officer. The failure or inability to obtain an additional test by a person shall not preclude the admission of evidence relating to the test or tests taken at the direction of a law enforcement officer.

4. [(f)] Upon the request of the person who shall submit to a chemical test or tests at the request of a law enforcement officer, full information concerning the test or tests shall be made available to him or his attorney.

5. [(4)] Percent by weight of alcohol in the blood shall be based upon grams of alcohol per 100 cubic centimeters of blood. (REVISED, 1968.)

(b) Upon the trial of any civil or criminal action or proceeding arising out of acts alleged to have been committed by any person while driving or in actual physical control of a vehicle while under the influence of [intoxicating liquor] the amount of alcohol in the person's blood at the time alleged as shown by chemical analysis of the person's blood, urine, breath, or other bodily substance shall give rise to the following presumptions:

→ alcohol

1. If there was at that time 0.05 percent or less by weight of alcohol in the person's blood, it shall be presumed that the person was not under the influence of [intoxicating liquor.] →

alcohol.

2. If there was at that time in excess of 0.05 percent but less than 0.10 percent by weight of alcohol in the person's blood, such fact shall not give rise to any presumption that the person was or was not under the influence of [intoxicating liquor] but such fact may be considered with other competent evidence in determining whether the person was under the influence of [intoxicating liquor.] →

alcohol,

alcohol.

3. If there was at that time 0.10 percent or more by weight of alcohol in the person's blood, it shall be presumed that the person was under the influence of [intoxicating liquor.]

(Former subsection (b)4 moved to (a)5 above.)

3. [5.] The foregoing provisions of paragraph (b) shall not be construed as limiting the introduction of any other competent evidence bearing upon the question whether the person was under the influence of [intoxicating liquor] → alcohol.

Comments: This draft moves the chemical test provisions out of § 11-902. The new section deals solely with chemical tests and is divided into two subsections. Subsection (a) deals with the procedures for performing chemical tests and it would be applicable to chemical tests performed where any of the four offenses under § 11-902 is suspected. The subsection specifically provides that the evidence of the amount of alcohol or drug in the blood as determined by the chemical test would be admissible. Subsection (b) retains the presumptive levels, except the presumption based upon a level of 0.10% which is deleted because it is superfluous in view of new § 11-902(a)1 making it unlawful for a driver to have a blood/alcohol ratio of 0.10% or more.

§ 6-205—Mandatory revocation of license by department

The department shall forthwith revoke the license of any driver upon receiving a record of such driver's conviction of any of the following offenses:

1. Manslaughter (or homicide by vehicle) resulting from the operation of a motor vehicle;
2. Driving or being in actual physical control of a motor vehicle while [under the influence of intoxicating liquor];
3. Driving a motor vehicle while an habitual user or under the influence of any narcotic drug or while under the influence of any other drug to a degree which renders him incapable of safely driving a motor vehicle;
3. [4] Any felony in the commission of which a motor vehicle is used;
4. [5] Failure to stop, render aid, or identify himself as required by § 10-102 in the event of a motor vehicle accident resulting in the death or personal injury of another;
5. [6] Perjury or the making of a false affidavit or statement under oath to the department under this act or under any other law relating to the ownership or operation of motor vehicles;
6. [7] Unauthorized use of a motor vehicle belonging to another which act does not amount to a felony.¹³ (SECTION REVISED, 1968.)

ability is impaired by alcohol or drug as prohibited by § 11-902

§ 6-205.1—Revocation of license in event of refusal to submit to chemical tests¹⁴

(a) Any person who operates a motor vehicle upon the [public] highways of this State shall be deemed to have given consent, subject to the provisions of § ~~11-902~~ to a chemical test or tests of his blood, breath, or urine for the purpose of determining the alcoholic content of his blood if arrested for any offense arising out of acts alleged to have been committed while the person was driving or in actual physical control of a motor vehicle while [under the influence of intoxicating liquor]. The test or tests shall be administered at the direction of a law enforcement officer having reasonable grounds to believe the person to have been driving or in actual physical control of a motor vehicle upon the [publ'] highways of this State while [under the influence of intoxicating liquor]. The law enforcement agency by which such officer is employed shall designate which of the aforesaid tests shall be administered.

11-902.1

drug
was
ed by
al or drugs

ability was
impaired by
alcohol or drugs

(b) Any person who is dead, unconscious or who is otherwise in a condition rendering him incapable of refusal, shall be deemed not to have withdrawn the consent provided by paragraph (a) of this section and the test or tests may be administered, subject to the provisions of § ~~11-902~~ →

11-902.1

(c) If a person under arrest refuses upon the request of a law enforcement officer to submit to a chemical test designated by the law enforcement agency as provided in paragraph (a) of this section, none shall be given, but the department, upon the receipt of a sworn report of the law enforcement officer that he had reasonable grounds to believe the arrested person had been driving or was in actual physical control of a motor vehicle upon the [public] highways of this State while [under the influence of intoxicating liquor] and that the person had refused to submit to the test upon the request of the law enforcement officer, shall revoke his license subject to review as hereinafter provided.

ability was
impaired by
alcohol or drugs

(d) Upon revoking the license, as hereinbefore in this section directed, the department shall immediately notify the person in writing and upon his request shall afford him an opportunity for a hearing in the same manner and under the same conditions as is provided in § 6-206(c) for notification and hearings in the cases of discretionary suspension of licenses, except that the scope of such a hearing for the purposes of this section shall cover the issues of whether a law enforcement officer had reasonable grounds to believe the person had been driving or was in actual physical control of a motor vehicle upon the [public] highways of this State while [under the influence of intoxicating liquor] whether the person was placed under arrest, and whether he refused to submit to the test upon request of the officer. Whether the person was informed that his privilege to drive would be revoked if he refused to submit to the test shall not be an issue. The department shall order that the revocation either be rescinded or sustained.

ability was
impaired by
alcohol or drugs

(e) If the revocation is sustained after such a hearing, the person whose license has been revoked, under the provisions of this section, shall have the right to file a petition in the appropriate court to review the final order of revocation by the department in the same manner and under the same conditions as is provided in § 6-212 in the cases of discretionary revocations and suspensions. (NEW SECTION, 1962; REVISED, 1968.)

§ 16-105—Arrests for serious offenses

(a) The authority of a police officer to make an arrest is the same as upon an arrest for a felony when such officer has reasonable and probable grounds to believe that the person arrested has committed any of the following offenses:

1. Homicide by vehicle;
2. Driving, or being in actual physical control of, a vehicle while ~~under the influence of intoxicating liquor~~ →
3. ~~Driving a vehicle while under the influence of any narcotic drug, or driving a vehicle while under the influence of any other drug to a degree which renders the person incapable of safely driving a vehicle;~~
3. ~~4.~~ Failure to stop, or failure to give information, or failure to render reasonable assistance, in the event of an accident resulting in death or personal injuries, as prescribed in §§ 10-102 and 10-104;
4. ~~5.~~ Failure to stop, or failure to give information, in the event of an accident resulting in damage to a vehicle or to other property, as prescribed in §§ 10-103 to 10-105 inclusive; (REVISED, 1968.)
5. ~~6.~~ Reckless driving;
6. ~~7.~~ Racing on the highway; or (NEW, 1968.)
7. ~~8.~~ Willfully fleeing from or attempting to elude a police officer. (NEW, 1968.)

ability is impaired by alcohol or drug as prohibited by § 11-902

Provided, however, that the manner of making arrests under this section shall be as in misdemeanor cases.

(b) Whenever any person is arrested as authorized in this section he shall be taken without unnecessary delay before the proper magistrate as specified in § 16-111, except that in the case of the offenses designated in paragraphs 5, 6, 7 and 8, a police officer shall have the same discretion as is provided in other cases in § 16-107. (REVISED, 1968.)

was approved Nov. 6, 1971

Comments: These revisions to Code §§ 6-205, 6-205.1 and 16-105 are necessary to provide for license revocation, implied consent to testing, and felony arrest powers in the case of the alcohol and drug offenses other than driving while under the influence.

13. TREATMENT FOR DRIVERS WITH ALCOHOL OR DRUG PROBLEM

Subcommittee Recommendation: Amend the penalty for a violation of § 11-902 to allow a commitment or an order to submit to supervised treatment as an alternate to fine or imprisonment.

ice for a total period of five consecutive years, and upon being relieved by the appropriate Secretary from active Federal service, National Guard, or Air National Guard units, shall, insofar as practicable, be returned to their National Guard or Air National Guard status in their respective States, Territories, the District of Columbia, and Puerto Rico, with pertinent records, colors, histories, trophies, and other historical impedimenta. (June 24, 1948, ch. 625, title I, § 21, as added June 30, 1950, ch. 445, § 2, 64 Stat. 318, and amended June 19, 1951, ch. 144, title I, § 1(x), 65 Stat. 87; July 7, 1952, ch. 584, § 1, 66 Stat. 440.)

REFERENCES IN TEXT

Selective Service Act of 1948, as amended, referred to in the first par., was redesignated Universal Military Training and Service Act by the amendment in act June 19, 1951, ch. 144, title I, § 1(a), 65 Stat. 75 to act June 24, 1948, ch. 625, title I, § 1(a), 62 Stat. 604, and was again redesignated Military Selective Service Act of 1967 by the amendment in Pub. L. 90-40, § 1(1), June 30, 1967, 81 Stat. 100. See section 451(a) of this Appendix.

AMENDMENTS

1952—Act July 7, 1952, authorized the President to retain unit organizations and their equipment, exclusive of individual members, for a period of five years.

1951—Act June 19, 1951, substituted "July 1, 1953" for "July 9, 1951", "twenty-four months" for "twenty-one months", and adding last sentence.

EX. ORD. NO. 10271. DELEGATION OF PRESIDENT'S AUTHORITY

Ex. Ord. No. 10271, July 7, 1951, 16 F.R. 6661, provided:

There is hereby delegated to the Secretary of Defense the authority vested in the President by section 21 of the Universal Military Training and Service Act (64 Stat. 318), as amended by the 1951 Amendments to the Universal Military Training and Service Act (65 Stat. 87; Public Law 51, 82d Congress) [this section], to order into the active military or naval service of the United States for a period not to exceed twenty-four months, with or without their consent, any or all members and units of any or all Reserve components of the Armed Forces of the United States and retired personnel of the Regular Armed Forces: *Provided*, that so much of the authority of the President under the said section 21, as amended [this section], as relates to any Reserve component of the United States Coast Guard or to retired personnel of the Regular Coast Guard is hereby delegated to the Secretary of the Treasury.

The Secretary of Defense is hereby authorized to redelegate, subject to such conditions as the Secretary may deem appropriate, to the Secretaries of the Army, Navy, and Air Force such functions under this order as affect their respective services.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 451, 453, 454, 455, 456, 459, 460, 461, 462, 463, 464, 465, 466, 467, 469, 470 of this Appendix.

§ 472. Period of increased service applicable to all personnel.

Wherever in this amendatory Act the period of active service for any category of persons is increased, such increased period of service shall be applicable to all persons in such category serving on active duty in the Armed Forces on the date of the enactment of this amendatory Act [June 19, 1951]. (June 19, 1951, ch. 144, title I, § 4, 65 Stat. 88.)

REFERENCES IN TEXT

Date of the enactment of this amendatory Act, referred to in the text, is act June 19, 1951, ch. 144, 65 Stat. 75, which generally amended this Appendix. See distribution tables for distribution of act.

CODIFICATION

Section was enacted as part of the 1951 Amendments to the Universal Military Training and Service Act, act June 19, 1951, ch. 144, 65 Stat. 75, and not as part of the Military Selective Service Act of 1967, act June 24, 1948, ch. 625, 62 Stat. 604. Title I of Act June 24, 1948, ch. 625, as amended, is classified to sections 451, 453, 454, 455, 456, and 458—471 of this Appendix. Title II of the Act was classified to various sections of former Title 10, Army and Air Force. See Tables volume. For location of such sections in revised Title 10, Armed Forces, see disposition table set out at the beginning of Title 10, Armed Forces.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 451, 453, 454, 455, 456, 459, 460, 461, 462, 463, 464, 465, 466, 467, 469, 470 of this Appendix.

§ 473. Regulations governing liquor sales; penalties.

The Secretary of Defense is authorized to make such regulations as he may deem to be appropriate governing the sale, consumption, possession of or traffic in beer, wine, or any other intoxicating liquors to or by members of the Armed Forces or the National Security Training Corps at or near any camp, station, post, or other place primarily occupied by members of the Armed Forces or the National Security Training Corps. Any person, corporation, partnership, or association who knowingly violates the regulations which may be made hereunder shall, unless otherwise punishable under the Uniform Code of Military Justice, be deemed guilty of a misdemeanor and be punished by a fine of not more than \$1,000 or imprisonment for not more than twelve months, or both. (June 19, 1951, ch. 144, title I, § 6, 65 Stat. 88.)

REFERENCES IN TEXT

Uniform Code of Military Justice, referred to in the text, is classified to chapter 47 of Title 10, Armed Forces.

CODIFICATION

Section was enacted as a part of the 1951 Amendments to the Universal Military Training and Service Act, act June 19, 1951, ch. 144, 65 Stat. 75, and not as a part of the Military Selective Service Act of 1967, act June 24, 1948, ch. 625, 62 Stat. 604. Title I of Act June 24, 1948, ch. 625, as amended, is classified to sections 451, 453, 454, 455, 456, and 458—471 of this Appendix. Title II of the Act was classified to various sections of former Title 10, Army and Air Force. See Tables volume. For location of such sections in revised Title 10, Armed Forces, see disposition table set out at the beginning of Title 10, Armed Forces.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 451, 453, 454, 455, 456, 459, 460, 461, 462, 463, 464, 465, 466, 467, 469, 470 of this Appendix.

SOLDIERS' AND SAILORS' CIVIL RELIEF ACT OF 1940

ACT OCT. 17, 1940, CH. 888, 54 STAT. 1178

Sec.

501. Short title.

ARTICLE I.—GENERAL PROVISIONS

510. Purpose; suspension of enforcement of civil liabilities.
511. Definitions.
512. Territorial application; jurisdiction of courts; form of procedure.
513. Protection of persons secondarily liable.
514. Extension of benefits to citizens serving with forces of war allies.
515. Notice of benefits to persons in and persons entering military service.

Re
HB 379

(Former subsection (b)4 moved to (a)5 above.)

3. [5.] The foregoing provisions of paragraph (b) shall not be construed as limiting the introduction of any other competent evidence bearing upon the question whether the person was under the influence of [intoxicating liquor]

alcohol.

Comments: This draft moves the chemical test provisions out of § 11-902. The new section deals solely with chemical tests and is divided into two subsections. Subsection (a) deals with the procedures for performing chemical tests and it would be applicable to chemical tests performed where any of the four offenses under § 11-902 is suspected. The subsection specifically provides that the evidence of the amount of alcohol or drug in the blood as determined by the chemical test would be admissible. Subsection (b) retains the presumptive levels, except the presumption based upon a level of 0.10% which is deleted because it is superfluous in view of new § 11-902(a)1 making it unlawful for a driver to have a blood/alcohol ratio of 0.10% or more.

§ 6-205—Mandatory revocation of license by department

The department shall forthwith revoke the license of any driver upon receiving a record of such driver's conviction of any of the following offenses:

1. Manslaughter (or homicide by vehicle) resulting from the operation of a motor vehicle;

2. Driving or being in actual physical control of a motor vehicle while [under the influence of intoxicating liquor];

3. Driving a motor vehicle while an habitual user or under the influence of any narcotic drug or while under the influence of any other drug to a degree which renders him incapable of safely driving a motor vehicle;

3. [4.] Any felony in the commission of which a motor vehicle is used;

4. [5.] Failure to stop, render aid, or identify himself as required by § 10-102 in the event of a motor vehicle accident resulting in the death or personal injury of another;

5. [6.] Perjury or the making of a false affidavit or statement under oath to the department under this act or under any other law relating to the ownership or operation of motor vehicles;

6. [7.] Unauthorized use of a motor vehicle belonging to another which act does not amount to a felony.¹³ (SECTION REVISED, 1968.)

*ability is impaired
by alcohol under
as prohibited by
§ 11-902*

§ 6-205.1—Revocation of license in event of refusal to submit to chemical tests ¹⁴

(a) Any person who operates a motor vehicle upon the [public] highways of this State shall be deemed to have given consent, subject to the provisions of § [11-902] to a chemical test or tests of his blood, breath, or urine for the purpose of determining the alcoholic content of his blood if arrested for any offense arising out of acts alleged to have been committed while the person was driving or in actual physical control of a motor vehicle while [under the influence of intoxicating liquor]. The test or tests shall be administered at the direction of a law enforcement officer having reasonable grounds to believe the person to have been driving or in actual physical control of a motor vehicle upon the [public] highways of this State while [under the influence of intoxicating liquor]. The law enforcement agency by which such officer is employed shall designate which of the aforesaid tests shall be administered.

*was
by
alcohol or drugs*

11-902.1,

*ability was
impaired by
alcohol or drugs*

(b) Any person who is dead, unconscious or who is otherwise in a condition rendering him incapable of refusal, shall be deemed not to have withdrawn the consent provided by paragraph (a) of this section and the test or tests may be administered, subject to the provisions of § [11-902]

11-902.1,

(c) If a person under arrest refuses upon the request of a law enforcement officer to submit to a chemical test designated by the law enforcement agency as provided in paragraph (a) of this section, none shall be given, but the department, upon the receipt of a sworn report of the law enforcement officer that he had reasonable grounds to believe the arrested person had been driving or was in actual physical control of a motor vehicle upon the [public] highways of this State while [under the influence of intoxicating liquor] and that the person had refused to submit to the test upon the request of the law enforcement officer, shall revoke his license subject to review as hereinafter provided.

*ability was
impaired by
alcohol or drugs*

(d) Upon revoking the license, as hereinbefore in this section directed, the department shall immediately notify the person in writing and upon his request shall afford him an opportunity for a hearing in the same manner and under the same conditions as is provided in § 6-206(c) for notification and hearings in the cases of discretionary suspension of licenses, except that the scope of such a hearing for the purposes of this section shall cover the issues of whether a law enforcement officer had reasonable grounds to believe the person had been driving or was in actual physical control of a motor vehicle upon the [public] highways of this State while [under the influence of intoxicating liquor] whether the person was placed under arrest, and whether he refused to submit to the test upon request of the officer. Whether the person was informed that his privilege to drive would be revoked if he refused to submit to the test shall not be an issue. The department shall order that the revocation either be rescinded or sustained.

*ability was
impaired by
alcohol or drugs*

(e) If the revocation is sustained after such a hearing, the person whose license has been revoked, under the provisions of this section, shall have the right to file a petition in the appropriate court to review the final order of revocation by the department in the same manner and under the same conditions as is provided in § 6-212 in the cases of discretionary revocations and suspensions. (NEW SECTION, 1962; REVISED, 1968.)

§ 16-105—Arrests for serious offenses

(a) The authority of a police officer to make an arrest is the same as upon an arrest for a felony when such officer has reasonable and probable grounds to believe that the person arrested has committed any of the following offenses:

1. Homicide by vehicle;
2. Driving, or being in actual physical control of, a vehicle while ~~under the influence of intoxicating liquor;~~ →
3. ~~Driving a vehicle while under the influence of any narcotic drug, or driving a vehicle while under the influence of any other drug to a degree which renders the person incapable of safely driving a vehicle;~~
3. ~~4.~~ Failure to stop, or failure to give information, or failure to render reasonable assistance, in the event of an accident resulting in death or personal injuries, as prescribed in §§ 10-102 and 10-104;
4. ~~5.~~ Failure to stop, or failure to give information, in the event of an accident resulting in damage to a vehicle or to other property, as prescribed in §§ 10-103 to 10-105 inclusive; (REVISED, 1968.)
5. ~~6.~~ Reckless driving;
6. ~~7.~~ Racing on the highway; or (NEW, 1968.)
7. ~~8.~~ Willfully fleeing from or attempting to elude a police officer. (NEW, 1968.)

ability is impaired by alcohol or drug as prohibited by § 11-902

Provided, however, that the manner of making arrests under this section shall be as in misdemeanor cases.

(b) Whenever any person is arrested as authorized in this section he shall be taken without unnecessary delay before the proper magistrate as specified in § 16-111, except that in the case of the offenses designated in paragraphs 5, 6, 7 and 8, a police officer shall have the same discretion as is provided in other cases in § 16-107. (REVISED, 1968.)

2-year approved 1/10/68 1971

Comments: These revisions to Code §§ 6-205, 6-205.1 and 16-105 are necessary to provide for license revocation, implied consent to testing, and felony arrest powers in the case of the alcohol and drug offenses other than driving while under the influence.

13. TREATMENT FOR DRIVERS WITH ALCOHOL OR DRUG PROBLEM

Subcommittee Recommendation: Amend the penalty for a violation of § 11-902 to allow a commitment or an order to submit to supervised treatment as an alternate to fine or imprisonment.

ice for a total period of five consecutive years, and upon being relieved by the appropriate Secretary from active Federal service, National Guard, or Air National Guard units, shall, insofar as practicable, be returned to their National Guard or Air National Guard status in their respective States, Territories, the District of Columbia, and Puerto Rico, with pertinent records, colors, histories, trophies, and other historical impediments. (June 24, 1948, ch. 625, title I, § 21, as added June 30, 1950, ch. 445, § 2, 64 Stat. 318, and amended June 19, 1951, ch. 144, title I, § 1(x), 65 Stat. 87; July 7, 1952, ch. 584, § 1, 66 Stat. 440.)

REFERENCES IN TEXT

Selective Service Act of 1948, as amended, referred to in the first par., was redesignated Universal Military Training and Service Act by the amendment in act June 19, 1951, ch. 144, title I, § 1(a), 65 Stat. 75 to act June 24, 1948, ch. 625, title I, § 1(a), 62 Stat. 604, and was again redesignated Military Selective Service Act of 1967 by the amendment in Pub. L. 90-40, § 1(1), June 30, 1967, 81 Stat. 100. See section 451(a) of this Appendix.

AMENDMENTS

1952—Act July 7, 1952, authorized the President to retain unit organizations and their equipment, exclusive of individual members, for a period of five years.

1951—Act June 19, 1951, substituted "July 1, 1953" for "July 9, 1951", "twenty-four months" for "twenty-one months", and adding last sentence.

EX. ORD. NO. 10271. DELEGATION OF PRESIDENT'S AUTHORITY

Ex. Ord. No. 10271, July 7, 1951, 16 F.R. 6661, provided: There is hereby delegated to the Secretary of Defense the authority vested in the President by section 21 of the Universal Military Training and Service Act (64 Stat. 318), as amended by the 1951 Amendments to the Universal Military Training and Service Act (65 Stat. 87; Public Law 51, 82d Congress) [this section], to order into the active military or naval service of the United States for a period not to exceed twenty-four months, with or without their consent, any or all members and units of any or all Reserve components of the Armed Forces of the United States and retired personnel of the Regular Armed Forces: *Provided*, that so much of the authority of the President under the said section 21, as amended [this section], as relates to any Reserve component of the United States Coast Guard or to retired personnel of the Regular Coast Guard is hereby delegated to the Secretary of the Treasury.

The Secretary of Defense is hereby authorized to redelegate, subject to such conditions as the Secretary may deem appropriate, to the Secretaries of the Army, Navy, and Air Force such functions under this order as affect their respective services.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 451, 452, 454, 455, 456, 459, 460, 461, 462, 463, 464, 465, 466, 467, 469, 470 of this Appendix.

§ 472. Period of increased service applicable to all personnel.

Wherever in this amendatory Act the period of active service for any category of persons is increased, such increased period of service shall be applicable to all persons in such category serving on active duty in the Armed Forces on the date of the enactment of this amendatory Act [June 19, 1951]. (June 19, 1951, ch. 144, title I, § 4, 65 Stat. 88.)

REFERENCES IN TEXT

Date of the enactment of this amendatory Act, referred to in the text, is act June 19, 1951, ch. 144, 65 Stat. 75, which generally amended this Appendix. See distribution tables for distribution of act.

CODIFICATION

Section was enacted as part of the 1951 Amendments to the Universal Military Training and Service Act, act June 19, 1951, ch. 144, 65 Stat. 75, and not as part of the Military Selective Service act of 1967, Act June 24, 1948, ch. 625, 62 Stat. 604. Title I of Act June 24, 1948, ch. 625, as amended, is classified to sections 451, 453, 454, 455, 456, and 458—471 of this Appendix. Title II of the Act was classified to various sections of former Title 10, Army and Air Force. See Tables volume. For location of such sections in revised Title 10, Armed Forces, see disposition table set out at the beginning of Title 10, Armed Forces.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 451, 453, 454, 455, 456, 459, 460, 461, 462, 463, 464, 465, 466, 467, 469, 470 of this Appendix.

§ 473. Regulations governing liquor sales; penalties.

The Secretary of Defense is authorized to make such regulations as he may deem to be appropriate governing the sale, consumption, possession of or traffic in beer, wine, or any other intoxicating liquors to or by members of the Armed Forces or the National Security Training Corps at or near any camp, station, post, or other place primarily occupied by members of the Armed Forces or the National Security Training Corps. Any person, corporation, partnership, or association who knowingly violates the regulations which may be made hereunder shall, unless otherwise punishable under the Uniform Code of Military Justice, be deemed guilty of a misdemeanor and be punished by a fine of not more than \$1,000 or imprisonment for not more than twelve months, or both. (June 19, 1951, ch. 144, title I, § 6, 65 Stat. 88.)

REFERENCES IN TEXT

Uniform Code of Military Justice, referred to in the text, is classified to chapter 47 of Title 10, Armed Forces.

CODIFICATION

Section was enacted as a part of the 1951 Amendments to the Universal Military Training and Service Act, act June 19, 1951, ch. 144, 65 Stat. 75, and not as a part of the Military Selective Service Act of 1967, act June 24, 1948, ch. 625, 62 Stat. 604. Title I of Act June 24, 1948, ch. 625, as amended, is classified to sections 451, 453, 454, 455, 456, and 458—471 of this Appendix. Title II of the Act was classified to various sections of former Title 10, Army and Air Force. See Tables volume. For location of such sections in revised Title 10, Armed Forces, see disposition table set out at the beginning of Title 10, Armed Forces.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 451, 453, 454, 455, 456, 459, 460, 461, 462, 463, 464, 465, 466, 467, 469, 470 of this Appendix.

SOLDIERS' AND SAILORS' CIVIL RELIEF ACT
OF 1949

ACT OCT. 17, 1940, CH. 888, 54 STAT. 1178

Sec.
501. Short title.

ARTICLE I.—GENERAL PROVISIONS

510. Purpose; suspension of enforcement of civil liabilities.
511. Definitions.
512. Territorial application; jurisdiction of courts; form of procedure.
513. Protection of persons secondarily liable.
514. Extension of benefits to citizens serving with forces of war allies.
515. Notice of benefits to persons in and persons entering military service.

Re
HB 379

- Sec.
516. Extension of benefits to persons ordered to report for induction or military service.
517. Effect on rights, remedies, etc., pursuant to written agreements entered after commencement of military service.

ARTICLE II.—GENERAL RELIEF

520. Default judgments; affidavits; bonds; attorneys for persons in service.
521. Stay of proceedings where military service affects conduct thereof.
522. Fines and penalties on contracts, etc.
523. Stay or vacation of execution of judgments, attachments, etc.
524. Duration and term of stays; codefendants not in service.
525. Statutes of limitations as affected by period of service.
526. Maximum rate of interest.
527. Limitations prescribed by internal revenue laws as affected by period of service.

ARTICLE III.—RENT, INSTALLMENT CONTRACTS, MORTGAGES, LIENS, ASSIGNMENTS, LEASES

530. Eviction or distress during military service; stay; penalty for noncompliance; allotment of pay for payment.
531. Installment contracts for purchase of property.
532. Mortgages, trust deeds, etc.
533. Settlement of cases involving stayed proceedings to foreclose mortgage on, resume possession of, or terminate contract for purchase of, personal property.
534. Termination of leases by lessees.
535. Protection of assignor of life insurance policy; enforcement of storage liens; penalties.
536. Extension of benefits to dependents.

ARTICLE IV.—INSURANCE

540. Definitions.
541. Persons entitled to benefits of article; applications; amount of insurance protected.
542. Form of application; reports to Veterans' Administration by insurer; policy deemed modified upon application for protection.
543. Determination of policies entitled to protection; notice to parties; lapse of policies for nonpayment of premiums, etc.
544. Rights and privileges of insured during period of protection.
545. Deduction of unpaid premiums upon settlement of policies maturing during protection.
546. Guaranty of premiums and interest by United States; settlement of amounts due upon expiration of protection; subrogation of United States; crediting debt repayments.
547. Regulations; finality of determinations.
548. Law governing applications for protection prior to October 6, 1942.
549 to 554. Omitted.

ARTICLE V.—TAXES AND PUBLIC LANDS

560. Taxes respecting personalty, money, credits, or realty; sale of property to enforce collection; redemption of property sold; penalty for nonpayment; notice of rights to beneficiaries of section.
561. Rights to public lands not forfeited; grazing lands
562. Homestead entries and settlement claims; service as equivalent to residence and cultivation.
563. Same; death or incapacity during or resulting from service as affecting rights; perfection of rights.
564. Desert-land entries; suspension of requirements.
565. Mining claims; requirements suspended.
566. Mineral permits and leases; suspension of operations and term of permits and leases.
567. Right to take action for perfection, defense, etc., of rights as unaffected; affidavits and proofs.
568. Irrigation rights; residence requirements suspended.
569. Distribution of information concerning benefits of article; forms.

- Sec.
570. Homestead entrymen permitted to leave entries to perform farm labor.
571. Land rights of persons under 21.
572. Extension of benefits to persons serving with war allies of United States.
573. Income taxes; collection deferred; interest; statute of limitations.
574. Residence for tax purposes.

ARTICLE VI.—ADMINISTRATIVE REMEDIES

580. Transfers to take advantage of act.
581. Certificates of service; persons reported missing.
582. Revocation, etc., of interlocutory orders.
583. Separability of provisions.
584. Termination date.
585. Inapplicability of Soldier's and Sailor's Civil Relief Act of 1918.

ARTICLE VII.—FURTHER RELIEF

590. Stay of enforcement of obligations, liabilities, taxes, etc.

EXTENSION OF BENEFITS TO INDUCTEES UNDER UNIVERSAL MILITARY TRAINING AND SERVICE ACT

The benefits of the Soldiers' and Sailors' Civil Relief Act of 1940, sections 501—548 and 500—590 of this Appendix, are extended to inductees under the Universal Military Training and Service Act by section 404 of this Appendix

SOLDIERS' AND SAILORS' CIVIL RELIEF ACT OF 1918

Former provisions on this subject were contained in the Soldiers' and Sailors' Civil Relief Act of 1918, set out as former act' 101 et seq. of this Appendix.

§ 501. Short title.

This Act (sections 501 to 548 and 500 to 590 of this Appendix) may be cited as the Soldiers' and Sailors' Civil Relief Act of 1940. (Oct. 17, 1940, ch. 888, § 1, 54 Stat. 1178.)

SOLDIERS' AND SAILORS' CIVIL RELIEF ACT AMENDMENTS OF 1942

Act Oct. 6, 1942, ch. 881, § 1, 56 Stat. 769, provided: "That this Act (affecting sections 513—517, 525, 526, 530—535, 540—554, 560, 569, 572, 574, and 590 of this Appendix) may be cited as the Soldiers' and Sailors' Civil Relief Act Amendments of 1942."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 510 to 548 and 560 to 590 of this Appendix.

ARTICLE I.—GENERAL PROVISIONS

§ 510. Purpose; suspension of enforcement of civil liabilities.

In order to provide for, strengthen, and expedite the national defense under the emergent conditions which are threatening the peace and security of the United States and to enable the United States the more successfully to fulfill the requirements of the national defense, provision is made to suspend enforcement of civil liabilities, in certain cases, of persons in the military service of the United States in order to enable such persons to devote their entire energy to the defense needs of the Nation, and to this end the following provisions are made for the temporary suspension of legal proceedings and transactions which may prejudice the civil rights of persons in such service during the period herein specified over which this Act (sections 501 to 548 and 560 to 590 of this Appendix) remains in force. (Oct. 17, 1940, ch. 888, § 100, 54 Stat. 1179.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 511 to 548 and 560 to 590 of this Appendix.

§ 511. Definitions.

(1) The term "persons in military service" and the term "persons in the military service of the United States", as used in this Act [sections 501 to 548 and 560 to 590 of this Appendix], shall include the following persons and no other: All members of the Army of the United States, the United States Navy, the Marine Corps, the Coast Guard, and all officers of the Public Health Service detailed by proper authority for duty either with the Army or the Navy. The term "military service", as used in this Act [said sections], shall signify Federal service on active duty with any branch of service heretofore referred to or mentioned as well as training or education under the supervision of the United States preliminary to induction into the military service. The terms "active service" or "active duty" shall include the period during which a person in military service is absent from duty on account of sickness, wounds, leave, or other lawful cause.

(2) The term "period of military service", as used in this Act [sections 501 to 548 and 560 to 590 of this Appendix], shall include the time between the following dates: For persons in active service at the date of approval of this Act [Oct. 17, 1940] it shall begin with the date of approval of this Act [Oct. 17, 1940]; for persons entering active service after the date of this Act [Oct. 17, 1940], with the date of entering active service. It shall terminate with the date of discharge from active service or death while in active service, but in no case later than the date when this Act [said sections] ceases to be in force.

(3) The term "person", when used in this Act [sections 501 to 548 and 560 to 590 of this Appendix], with reference to the holder of any right alleged to exist against a person in military service or against a person secondarily liable under such right, shall include individuals, partnerships, corporations, and any other forms of business association.

(4) The term "court", as used in this Act [sections 501 to 548 and 560 to 590 of this Appendix], shall include any court of competent jurisdiction of the United States or of any State, whether or not a court of record. (Oct. 17, 1940, ch. 888, § 101, 54 Stat. 1179.)

WOMEN'S ARMY CORPS

The members of the Women's Army Auxiliary Corps were included among the "persons in military service" within the meaning of the Soldiers' and Sailors' Civil Relief Act by the amendment to subsec. 1 of this section by act of May 14, 1942, ch. 312, § 10, 56 Stat. 282, which was repealed by act of July 1, 1943, ch. 187, § 5, 57 Stat. 371. The Women's Army Auxiliary Corps established by the act of May 14, 1942, was superseded by the Women's Army Corps in the Army of the United States as established by the act of July 1, 1943, ch. 187, 57 Stat. 371 and repealed by act June 25, 1947, ch. 327, § 2 (a), 61 Stat. 451, eff. July 1, 1948. The effective date of the repeal was postponed until June 12, 1949, by act June 12, 1949, ch. 440, title I, § 110, 62 Stat. 303, section 101 of which established in the Regular Army a Women's Army Corps to be effective June 12, 1948.

The members of the Women's Army Corps, Regular Army, are entitled to the protection of all laws applicable to male commissioned officers, warrant officers, and enlisted men of the Regular Army; to former male commissioned officers, warrant officers and enlisted men of the

Regular Army; and to their dependents and beneficiaries, in view of section 107 of act June 12, 1948, ch. 42, title I, 62 Stat. 361, which superseded similar provisions contained in act July 1, 1943, ch. 187, § 2, 57 Stat. 371 [formerly set out as section 1552 of this Appendix].

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510, 512 to 548 and 560 to 590 of this Appendix.

§ 512. Territorial application; jurisdiction of courts; form of procedure.

(1) The provisions of this Act [sections 501 to 548 and 560 to 590 of this Appendix] shall apply to the United States, the several States and Territories, the District of Columbia, and all territory subject to the jurisdiction of the United States, and to proceedings commenced in any court therein, and shall be enforced through the usual forms of procedure obtaining in such courts or under such regulations as may be by them prescribed.

(2) When under this Act [sections 501 to 548 and 560 to 590 of this Appendix], any application is required to be made to a court in which no proceeding has already been commenced with respect to the matter, such application may be made to any court. (Oct. 17, 1940, ch. 888, § 102, 54 Stat. 1179; Proc. No. 2695, July 4, 1946, 11 F.R. 7517, 60 Stat. 1352.)

CODIFICATION

The clause "including the Philippine Islands while under the sovereignty of the United States" following the words "and all territory subject to the jurisdiction of the United States" in subdivision (1) was omitted pursuant to 1946 Proc. No. 2695, which recognized the independence of the Philippine Islands as of July 4, 1946, and is set out as a note under section 1394 of Title 22, Foreign Relations and Intercourse.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510, 511, 518 to 548 and 560 to 590 of this Appendix.

§ 513. Protection of persons secondarily liable.

(1) Whenever pursuant to any of the provisions of this Act [sections 501 to 548 and 560 to 590 of this Appendix] the enforcement of any obligation or liability, the prosecution of any suit or proceeding, the entry or enforcement of any order, writ, judgment, or decree, or the performance of any other act, may be stayed, postponed, or suspended, such stay, postponement, or suspension may, in the discretion of the court, likewise be granted to sureties, guarantors, endorsers, accommodation makers, and others, whether primarily or secondarily subject to the obligation or liability, the performance or enforcement of which is stayed, postponed, or suspended.

(2) When a judgment or decree is vacated or set aside in whole or in part, as provided in this Act [sections 501 to 548 and 560 to 590 of this Appendix], the same may, in the discretion of the court, likewise be set aside and vacated as to any surety, guarantor, endorser, accommodation maker, or other person whether primarily or secondarily liable upon the contract or liability for the enforcement of which the judgment or decree was entered.

(3) Whenever, by reason of the military service of a principal upon a criminal bail bond the sureties upon such bond are prevented from enforcing the attendance of their principal and performing their

obligation the court shall not enforce the provisions of such bond during the military service of the principal thereon and may in accordance with principles of equity and justice either during or after such service discharge such sureties and exonerate the bail.

(4) Nothing contained in this Act [sections 501 to 548 and 560 to 590 of this Appendix], shall prevent a waiver in writing of the benefits afforded by subsections (1) and (2) of this section by any surety, guarantor, endorser, accommodation maker, or other person whether primarily or secondarily liable upon the obligation or liability, except that after the date of enactment of the Soldiers' and Sailors' Civil Relief Act Amendments of 1942 [Oct. 6, 1942] no such waiver shall be valid unless it is executed as an instrument separate from the obligation or liability in respect of which it applies, and no such waiver shall be valid after the beginning of the period of military service if executed by an individual who subsequent to the execution of such waiver becomes a person in military service, or if executed by a dependent of such individual, unless executed by such individual or dependent during the period specified in section 106 [section 516 of this Appendix]. (Oct. 17, 1940, ch. 888, § 103, 54 Stat. 1179; Oct. 6, 1942, ch. 581, §§ 2, 3, 56 Stat. 769.)

REFERENCES IN TEXT

The Soldiers' and Sailors' Civil Relief Act Amendments of 1942, referred to in subsec. (4), amended, among other sections, this section. For other sections affected, see note under section 501 of this Appendix.

AMENDMENTS

1942—Subsec. (1). Act Oct. 6, 1942, § 2(a), substituted "accommodation makers, and others, whether primarily or secondarily" for "and others".

Subsec. (2). Act Oct. 6, 1942, § 2(b), substituted "accommodation maker, or other person whether primarily or secondarily" for "or other person".

Subsecs. (3) and (4). Act Oct. 6, 1942, § 3 added subsecs. (3) and (4).

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 512, 514 to 548 and 560 to 590 of this Appendix.

§ 514. Extension of benefits to citizens serving with forces of war allies.

Persons who serve with the forces of any nation with which the United States may be allied in the prosecution of any war in which the United States engages while this Act (sections 501 to 548 and 560 to 590 of this Appendix) remains in force and who immediately prior to such service were citizens of the United States shall, except in those cases provided for in section 512 [section 572 of this Appendix], be entitled to the relief and benefits afforded by this Act (sections 501 to 548 and 560 to 590 of this Appendix) if such service is similar to military service as defined in this Act (said sections), unless they are dishonorably discharged therefrom, or it appears that they do not intend to resume United States citizenship. (Oct. 17, 1940, ch. 888, § 104, as added Oct. 6, 1942, ch. 581, § 4, 56 Stat. 770.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 513, 515 to 548 and 560 to 590 of this Appendix.

§ 515. Notice of benefits to persons in and persons entering military service.

The Secretary of the Army and the Secretary of the Navy shall make provision, in such manner as each may deem appropriate for his respective Department, to insure the giving of notice of the benefits accorded by this Act (sections 501 to 548 and 560 to 590 of this Appendix) to persons in and to persons entering military service. The Director of Selective Service shall cooperate with the Secretary of the Army and the Secretary of the Navy in carrying out the provisions of this section. (Oct. 17, 1940, ch. 888, § 105, as added Oct. 6, 1942, ch. 581, § 4, 56 Stat. 770.)

CODIFICATION

The Department of War was designated the Department of the Army and the title of the Secretary of War was changed to Secretary of the Army by section 205(a) of act July 26, 1947, ch. 343, title II, 61 Stat. 501. Section 205(a) of act July 26, 1947, was repealed by section 53 of act Aug. 10, 1956, ch. 1041, 70A Stat. 641. Section 1 of act Aug. 10, 1956, enacted "Title 10, Armed Forces" which in sections 3011—3013 continued the military Department of the Army under the administrative supervision of a Secretary of the Army.

SECRETARY OF THE AIR FORCE

For transfer of certain functions insofar as they pertain to the Air Force, and to the extent that they were not previously transferred to the Secretary of the Air Force and Department of the Air Force from the Secretary of the Army and Department of the Army, see Secretary of Defense Transfer Order No. 40 [App. A (112)], July 22, 1949.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 514, 516 to 548 and 560 to 590 of this Appendix.

§ 516. Extension of benefits to persons ordered to report for induction or military service.

Any person who has been ordered to report for induction under the Selective Training and Service Act of 1940, as amended, shall be entitled to the relief and benefits accorded persons in military service under articles I, II, and III of this Act (sections 510 to 517, 520 to 527, and 530 to 536 of this Appendix) during the period beginning on the date of receipt of such order and ending on the date upon which such person reports for induction; and any member of the Enlisted Reserve Corps who is ordered to report for military service shall be entitled to such relief and benefits during the period beginning on the date of receipt of such order and ending on the date upon which he reports for such service. (Oct. 17, 1940, ch. 888, § 106, as added Oct. 6, 1942, ch. 581, § 4, 56 Stat. 770.)

REFERENCES IN TEXT

The Selective Training and Service Act of 1940, as amended, referred to in text, was formerly set out as sections 301—303, 304, 305, 306—309, 310, and 311—318 of this Appendix. Similar provisions are now contained in the Universal Military Training and Service Act, set out as sections 451, 453, 454, 455, 456 and 458—471 of this Appendix.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 515, 517 to 548 and 560 to 590 of this Appendix.

§ 517. Effect on rights, remedies, etc., pursuant to written agreements entered after commencement of military service.

Nothing contained in this Act (sections 501 to 548 and 560 to 590 of this Appendix) shall prevent—

(a) the modification, termination, or cancellation of any contract, lease, or bailment or any obligation secured by mortgage, trust deed, lien, or other security in the nature of a mortgage, or

(b) the repossession, retention, foreclosure, sale, forfeiture, or taking possession of property which is security for any obligation or which has been purchased or received under a contract, lease, or bailment,

pursuant to a written agreement of the parties thereto (including the person in military service concerned, or the person to whom section 106 [section 516 of this Appendix] is applicable, whether or not such person is a party to the obligation), or their assignees, executed during or after the period of military service of the person concerned or during the period specified in section 106 [section 516 of this Appendix]. (Oct. 17, 1940, ch. 888, § 107, as added Oct. 6, 1942, ch. 581, § 4, 56 Stat. 770.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 516, 518 to 548 and 560 to 590 of this Appendix.

ARTICLE II.—GENERAL RELIEF

§ 520. Default judgments; affidavits; bonds; attorneys for persons in service.

(1) In any action or proceeding commenced in any court, if there shall be a default of any appearance by the defendant, the plaintiff, before entering judgment shall file in the court an affidavit setting forth facts showing that the defendant is not in military service. If unable to file such affidavit plaintiff shall in lieu thereof file an affidavit setting forth either that the defendant is in the military service or that plaintiff is not able to determine whether or not defendant is in such service. If an affidavit is not filed showing that the defendant is not in the military service, no judgment shall be entered without first securing an order of court directing such entry, and no such order shall be made if the defendant is in such service until after the court shall have appointed an attorney to represent defendant and protect his interest, and the court shall on application make such appointment. Unless it appears that the defendant is not in such service the court may require, as a condition before judgment is entered, that the plaintiff file a bond approved by the court conditioned to indemnify the defendant, if in military service, against any loss or damage that he may suffer by reason of any judgment should the judgment be thereafter set aside in whole or in part. And the court may make such other and further order or enter such judgment as in its opinion may be necessary to protect the rights of the defendant under this Act [sections 501 to 548 and 560 to 590 of this Appendix]. Whenever, under the laws applicable with respect to any court, facts may be evidenced, established, or proved by an unsworn statement, declaration, verification, or certificate, in writing, subscribed and certified or declared to be true under penalty of perjury, the filing of such an unsworn statement, declaration, verification, or certificate shall satisfy the requirement of this subsection that facts be established by affidavit.

(2) Any person who shall make or use an affidavit

required under this section or a statement, declaration, verification, or certificate certified or declared to be true under penalty of perjury permitted under subsection (1), knowing it to be false, shall be guilty of a misdemeanor and shall be punishable by imprisonment not to exceed one year or by fine not to exceed \$1,000, or both.

(3) In any action or proceeding in which a person in military service is a party if such party does not personally appear therein or is not represented by an authorized attorney, the court may appoint an attorney to represent him; and in such case a like bond may be required and an order made to protect the rights of such person. But no attorney appointed under this Act [sections 501 to 548 and 560 to 590 of this Appendix], to protect a person in military service shall have power to waive any right of the person for whom he is appointed or bind him by his acts.

(4) If any judgment shall be rendered in any action or proceeding governed by this section against any person in military service during the period of such service or within thirty days thereafter, and it appears that such person was prejudiced by reason of his military service in making his defense thereto, such judgment may, upon application, made by such person or his legal representative, not later than ninety days after the termination of such service, be opened by the court rendering the same and such defendant or his legal representative let in to defend; provided it is made to appear that the defendant has a meritorious or legal defense to the action or some part thereof. Vacating, setting aside, or reversing any judgment because of any of the provisions of this Act [sections 501 to 548 and 560 to 590 of this Appendix], shall not impair any right or title acquired by any bona fide purchaser for value under such judgment. (Oct. 17, 1940, ch. 888, § 200, 54 Stat. 1180; Sept. 8, 1960, Pub. L. 86-721, §§ 1, 2, 74 Stat. 820.)

AMENDMENTS

1960—Subsec. (1). Pub. L. 86-721, § 1, permitted the establishment of certain facts by a declaration under penalty of perjury in lieu of an affidavit.

Subsec. (2). Pub. L. 86-721, § 2, inserted after "affidavit required under this section," the words "or a statement, declaration, verification, or certificate certified or declared to be true under penalty of perjury permitted under subsection (1)."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 517, 521 to 548 and 560 to 590 of this Appendix.

§ 521. Stay of proceedings where military service affects conduct thereof.

At any stage thereof any action or proceeding in any court in which a person in military service is involved, either as plaintiff or defendant, during the period of such service or within sixty days thereafter may, in the discretion of the court in which it is pending, on its own motion, and shall, on application to it by such person or some person on his behalf, be stayed as provided in this Act [sections 501 to 548 and 560 to 590 of this Appendix] unless, in the opinion of the court, the ability of plaintiff to prosecute the action or the defendant to conduct his defense is not materially affected by reason of his

military service. (Oct. 17, 1940, ch. 888, § 201, 54 Stat. 1181.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 520, 522 to 548 and 560 to 590 of this Appendix.

§ 522. Fines and penalties on contracts, etc.

When an action for compliance with the terms of any contract is stayed pursuant to this Act [sections 501 to 548 and 560 to 590 of this Appendix] no fine or penalty shall accrue by reason of failure to comply with the terms of such contract during the period of such stay, and in any case where a person fails to perform any obligation and a fine or penalty for such nonperformance is incurred a court may, on such terms as may be just, relieve against the enforcement of such fine or penalty if it shall appear that the person who would suffer by such fine or penalty was in the military service when the penalty was incurred and that by reason of such service the ability of such person to pay or perform was thereby materially impaired. (Oct. 17, 1940, ch. 888, § 202, 54 Stat. 1181.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 521, 523 to 548 and 560 to 590 of this Appendix.

§ 523. Stay or vacation of execution of judgments, attachments, etc.

In any action or proceeding commenced in any court against a person in military service, before or during the period of such service, or within sixty days thereafter, the court may, in its discretion, on its own motion, or on application to it by such person or some person on his behalf shall, unless in the opinion of the court the ability of the defendant to comply with the judgment or order entered or sought is not materially affected by reason of his military service—

(a) Stay the execution of any judgment or order entered against such person, as provided in this Act [sections 501 to 548 and 560 to 590 of this Appendix]; and

(b) Vacate or stay any attachment or garnishment of property, money, or debts in the hands of another, whether before or after judgment as provided in this Act [said sections]. (Oct. 17, 1940, ch. 888, § 203, 54 Stat. 1181.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 522, 524 to 548 and 560 to 590 of this Appendix.

§ 524. Duration and term of stays; codefendants not in service.

Any stay of any action, proceeding, attachment, or execution, ordered by any court under the provisions of this Act [sections 501 to 548 and 560 to 590 of this Appendix] may, except as otherwise provided, be ordered for the period of military service and three months thereafter or any part of such period, and subject to such terms as may be just, whether as to payment in installments of such amounts and at such times as the court may fix or otherwise. Where the person in military service is a codefendant with either the plaintiff may nevertheless by leave of court proceed against the others. (Oct. 17, 1940, ch. 888, § 204, 54 Stat. 1181.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 522, 525 to 548 and 560 to 590 of this Appendix.

§ 525. Statutes of limitations as affected by period of service.

The period of military service shall not be included in computing any period now or hereafter to be limited by any law, regulation, or order for the bringing of any action or proceeding in any court, board bureau, commission, department, or other agency of government by or against any person in military service or by or against his heirs, executors, administrators, or assigns, whether such cause of action or the right or privilege to institute such action or proceeding shall have accrued prior to or during the period of such service, nor shall any part of such period which occurs after the date of enactment of the Soldiers' and Sailors' Civil Relief Act Amendments of 1942 (Oct. 6, 1942) be included in computing any period now or hereafter provided by any law for the redemption of real property sold or forfeited to enforce any obligation, tax, or assessment. (Oct. 17, 1940, ch. 888, § 205, 54 Stat. 1181; Oct. 6, 1942, ch. 581, § 5, 56 Stat. 770.)

REFERENCES IN TEXT

The Soldiers' and Sailors' Civil Relief Act Amendments of 1942, referred to in the text, amended, among other sections, this section. For other sections affected, see note under section 501 of this Appendix.

AMENDMENTS

1942—Act Oct. 6, 1942, included proceedings before boards, bureaus, commissions, departments, or other agencies of government, and added provision for omission of service period in computing period for redemption of real property.

CROSS REFERENCES

Application of this section to any period of limitation prescribed by or under internal revenue laws, see section 527 of this Appendix.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 524, 526 to 548 and 560 to 590 of this Appendix.

§ 526. Maximum rate of interest.

No obligation or liability bearing interest at a rate in excess of 6 per centum per annum incurred by a person in military service prior to his entry into such service shall, during any part of the period of military service which occurs after the date of enactment of the Soldiers' and Sailors' Civil Relief Act Amendments of 1942 (Oct. 6, 1942), bear interest at a rate in excess of 6 per centum per annum unless, in the opinion of the court, upon application thereto by the obligee, the ability of such person in military service to pay interest upon such obligation or liability at a rate in excess of 6 per centum per annum is not materially affected by reason of such service, in which case the court may make such order as in its opinion may be just. As used in this section the term "interest" includes service charges, renewal charges, fees, or any other charges (except bona fide insurance) in respect of such obligation or liability. (Oct. 17, 1940, ch. 888, § 206, as added Oct. 6, 1942, ch. 581, § 6, 56 Stat. 771.)

REFERENCES IN TEXT

The Soldiers' and Sailors' Civil Relief Act Amendments of 1942, referred to in the text, amended, among other

sections, this section. For other sections affected, see note under section 501 of this Appendix.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 526, 527 to 548 and 580 to 590 of this Appendix.

§ 527. Limitations prescribed by internal revenue laws as affected by period of service.

Section 205 of this Act [section 525 of this Appendix] shall not apply with respect to any period of limitation prescribed by or under the internal revenue laws of the United States. (Oct. 17, 1940, ch. 888, § 207, as added Oct. 21, 1942, ch. 619, title V, § 507(b) (2) (B), 56 Stat. 064.)

CROSS REFERENCES

Income taxes, deferment of collection, see section 573 of this Appendix and note thereunder.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 526, 527 to 548 and 580 to 590 of this Appendix.

ARTICLE III.—RENT, INSTALLMENT CONTRACTS, MORTGAGES, LIENS, ASSIGNMENTS, LEASES

AMENDMENTS

1942—Article heading was amended by act Oct. 6, 1942, ch. 581, § 7, 56 Stat. 771. Article was formerly entitled "Rent, Installment Contracts, Mortgages".

§ 530. Eviction or distress during military service; stay; penalty for noncompliance; allotment of pay for payment.

(1) No eviction or distress shall be made during the period of military service in respect of any premises for which the agreed rent does not exceed \$150 per month, occupied chiefly for dwelling purposes by the wife, children, or other dependents of a person in military service, except upon leave of court granted upon application therefor or granted in an action or proceeding affecting the right of possession.

(2) On any such application or in any such action the court may, in its discretion, on its own motion, and shall, on application, unless in the opinion of the court the ability of the tenant to pay the agreed rent is not materially affected by reason of such military service, stay the proceedings for not longer than three months, as provided in this Act [sections 501 to 548 and 580 to 590 of this Appendix], or it may make such other order as may be just. Where such stay is granted or other order is made by the court, the owner of the premises shall be entitled, upon application therefor, to relief in respect of such premises similar to that granted persons in military service in sections 301, 302, and 500 of this Act [sections 531, 532, and 580 of this Appendix] to such extent and for such period as may appear to the court to be just.

(3) Any person who shall knowingly take part in any eviction or distress otherwise than as provided in subsection (1) hereof, or attempts so to do, shall be guilty of a misdemeanor, and shall be punishable by imprisonment not to exceed one year or by fine not to exceed \$1,000, or both.

(4) The Secretary of the Army, the Secretary of the Navy, or the Secretary of the Treasury with respect to the Coast Guard, as the case may be, is empowered, subject to such regulations as he may prescribe, to order an allotment of the pay of a

person in military service in reasonable proportion to discharge the rent of premises occupied for dwelling purposes by the wife, children, or other dependents of such person. (Oct. 17, 1940, ch. 888, § 300, 54 Stat. 1181; Oct. 6, 1942, ch. 581, § 8, 56 Stat. 771; Mar. 3, 1966, Pub. L. 89-358, § 10, 80 Stat. 28.)

CODIFICATION

The Department of War was designated the Department of the Army and the title of the Secretary of War was changed to Secretary of the Army by section 205(a) of act July 26, 1947, ch. 343, title II, 61 Stat. 501. Section 205(n) of act July 26, 1947 was repealed by section 83 of act Aug. 10, 1956, ch. 1041, 70A Stat. 641. Section 1 of act Aug. 10, 1950, enacted "Title 10, Armed Forces" which in sections 3011-3013 continued the military Department of the Army under the administrative supervision of a Secretary of the Army.

AMENDMENTS

1086—Subsec. (1). Pub. L. 89-358 increased the limitation of rents from \$80 to \$150 per month.

1942—Subsec. (2). Act Oct. 6, 1942, § 8(a), added last sentence.

Subsec. (3). Act Oct. 6, 1942, § 8(b), inserted "or attempts so to do,".

SECRETARY OF THE AIR FORCE

For transfer of certain functions relating to finance and fiscal matters, insofar as they pertain to the Air Force, from the Secretary of the Army and Department of the Army to the Secretary of the Air Force and Department of the Air Force, see Secretary of Defense Transfer Order No. 25 [§ 111], Oct. 14, 1948.

For transfer of certain real property, and functions relating thereto, insofar as they pertain to the Air Force, from the Secretary of the Army and Department of the Army to the Secretary of the Air Force and Department of the Air Force, see Secretary of Defense Transfer Order Nos. 14, eff. July 1, 1948, and 40 [App. B (140)], July 22, 1949.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 527, 531 to 548 and 580 to 590 of this Appendix.

§ 531. Installment contracts for purchase of property.

(1) No person who has received, or whose assignor has received, under a contract for the purchase of real or personal property, or of lease or bailment with a view to purchase of such property, a deposit or installment of the purchase price, or a deposit or installment under the contract, lease, or bailment, from a person or from the assignor of a person who, after the date of payment of such deposit or installment, has entered military service, shall exercise any right or option under such contract to rescind or terminate the contract or resume possession of the property for nonpayment of any installment thereunder due or for any other breach of the terms thereof occurring prior to or during the period of such military service, except by action in a court of competent jurisdiction.

(2) Any person who shall knowingly resume possession of property which is the subject of this section otherwise than as provided in subsection (1) of this section or in section 107 [section 517 of this Appendix], or attempts so to do, shall be guilty of a misdemeanor and shall be punished by imprisonment not to exceed one year or by fine not to exceed \$1,000, or both.

(3) Upon the hearing of such action the court may order the repayment of prior installments or deposits or any part thereof, as a condition of terminating the contract and resuming possession of

the property, or may, in its discretion, on its own motion, and shall, on application to it by such person in military service or some person on his behalf, order a stay of proceedings as provided in this Act [sections 501 to 548 and 560 to 590 of this Appendix] unless, in the opinion of the court, the ability of the defendant to comply with the terms of the contract is not materially affected by reason of such service; or it may make such other disposition of the case as may be equitable to conserve the interests of all parties. (Oct. 17, 1940, ch. 888, § 301, 54 Stat. 1181; Oct. 6, 1942, ch. 581, § 9 (a, c, d), 56 Stat. 771.)

AMENDMENTS

1942—Subsec. (1). Act Oct. 6, 1942, § 9 (a), omitted provision limiting applicability to transactions prior to Oct. 10, 1940, and proviso relating to modification, termination, or cancellation of contracts and repossession or retention of property by mutual written agreement of the parties. Inserted provision relating to deposit or installment under contract, lease, or bailment, and included other branches of terms in addition to nonpayment of installments.

Subsec. (2). Act Oct. 6, 1942, § 9 (d), substituted "of this section or in section 107, or attempts so to do," for "hereof".

Subsec. (3). Act Oct. 6, 1942, § 9 (c), deleted "except as provided in section 303", preceding "on application".

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 530, 532 to 548 and 560 to 590 of this Appendix.

§ 532. Mortgages, trust deeds, etc.

(1) The provisions of this section shall apply only to obligations secured by mortgage, trust deed, or other security in the nature of a mortgage upon real or personal property owned by a person in military service at the commencement of the period of the military service and still so owned by him which obligations originated prior to such person's period of military service.

(2) In any proceeding commenced in any court during the period of military service to enforce such obligation arising out of nonpayment of any sum thereunder due or out of any other breach of the terms thereof occurring prior to or during the period of such service the court may, after hearing, in its discretion, on its own motion, and shall, on application to it by such person in military service or some person on his behalf, unless in the opinion of the court the ability of the defendant to comply with the terms of the obligation is not materially affected by reason of his military service—

(a) stay the proceedings as provided in this Act [sections 501 to 548 and 560 to 590 of this Appendix]; or

(b) make such other disposition of the case as may be equitable to conserve the interests of all parties.

(3) No sale, foreclosure, or seizure of property for nonpayment of any sum due under any such obligation, or for any other breach of the terms thereof, whether under a power of sale, under a judgment entered upon warrant of attorney to confess judgment contained therein, or otherwise, shall be valid if made after the date of enactment of the Soldiers' and Sailors' Civil Relief Act Amendments of 1942 (Oct. 6, 1942) and during the period of military service or within three months thereafter, except pur-

suant to an agreement as provided in section 107 [section 517 of this Appendix], unless upon an order previously granted by the court and a return thereto made and approved by the court.

(4) Any person who shall knowingly make or cause to be made any sale, foreclosure, or seizure of property, defined as invalid by subsection (3) hereof, or attempts so to do, shall be guilty of a misdemeanor and shall be punished by imprisonment not to exceed one year or by fine not to exceed \$1,000, or both. (Oct. 17, 1940, ch. 888, § 302, 54 Stat. 1182; Oct. 6, 1942, ch. 581, §§ 9 (b, c), 10, 56 Stat. 771, 772; June 23, 1952, ch. 450, 66 Stat. 151.)

REFERENCES IN TEXT

The Soldiers' and Sailors' Civil Relief Act Amendments of 1942, referred to in subsec. (3), amended, among other sections, this section. For other sections affected, see note under section 501 of this Appendix.

AMENDMENTS

1952—Subsec. (4). Act June 23, 1952, prohibited the making of sales, foreclosures, or seizures defined as invalid by subsec. (3) of this section.

1942—Subsec. (1). Act Oct. 6, 1942, § 9 (b), deleted "originating prior to the date of approval of this Act and" following "obligations" and inserted matter at end of subsection following "him".

Subsec. (2). Act Oct. 6, 1942, § 9 (c), deleted "except as provided in section 303," preceding "on application".

Subsec. (3). Act Oct. 6, 1942, § 10, amended subsec. (3) generally.

Subsec. (4). Act Oct. 6, 1942, § 10, added subsec. (4).

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 531, 533 to 548 and 560 to 590 of this Appendix and title 12 sections 1710, 1739, 1750c.

§ 533. Settlement of cases involving stayed proceedings to foreclose mortgage on, resume possession of, or terminate contract for purchase of, personal property.

Where a proceeding to foreclose a mortgage upon or to resume possession of personal property, or to rescind or terminate a contract for the purchase thereof, has been stayed as provided in this Act [sections 501 to 548 and 560 to 590 of this Appendix], the court may, unless in its opinion an undue hardship would result to the dependents of the person in military service, appoint three disinterested parties to appraise the property and, based upon the report of the appraisers, order such sum, if any, as may be just, paid to the person in military service or his dependent, as the case may be, as a condition of foreclosing the mortgage, resuming possession of the property, or rescinding or terminating the contract. (Oct. 17, 1940, ch. 888, § 303, as added Oct. 6, 1942, ch. 581, § 12, 56 Stat. 772.)

REPEALS

Former section 533, from act Oct. 17, 1940, ch. 888, § 303, 54 Stat. 1183, related to stay of action to resume possession of motor vehicle, tractor, or their accessories, encumbered by purchase money mortgage, conditional sales contract, etc., and was repealed by act Oct. 6, 1942, ch. 581, § 11, 56 Stat. 772.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 532, 534 to 548 and 560 to 590 of this Appendix.

§ 534. Termination of leases by lessees.

(1) The provisions of this section shall apply to any lease covering premises occupied for dwelling, professional, business, agricultural, or similar pur-

poses in any case in which (a) such lease was executed by or on the behalf of a person who, after the execution of such lease, entered military service, and (b) the premises so leased have been occupied for such purposes, or for a combination of such purposes, by such person or by him and his dependents.

(2) Any such lease may be terminated by notice in writing delivered to the lessor (or his grantee) or to the lessor's (or his grantee's) agent by the lessee at any time following the date of the beginning of his period of military service. Delivery of such notice may be accomplished by placing it in an envelope properly stamped and duly addressed to the lessor (or his grantee) or to the lessor's (or his grantee's) agent and depositing the notice in the United States mails. Termination of any such lease providing for monthly payment of rent shall not be effective until thirty days after the first date on which the next rental payment is due and payable subsequent to the date when such notice is delivered or mailed. In the case of all other leases, termination shall be effected on the last day of the month following the month in which such notice is delivered or mailed and in such case any unpaid rental for a period preceding termination shall be proratably computed and any rental paid in advance for a period succeeding termination shall be refunded by the lessor (or his assignee). Upon application by the lessor to the appropriate court prior to the termination period provided for in the notice, any relief granted in this subsection shall be subject to such modifications or restrictions as in the opinion of the court justice and equity may in the circumstances require.

(3) Any person who shall knowingly seize, hold, or detain the personal effects, clothing, furniture, or other property of any person who has lawfully terminated a lease covered by this section, or in any manner interfere with the removal of such property from the premises covered by such lease, for the purpose of subjecting or attempting to subject any of such property to a claim for rent accruing subsequent to the date of termination of such lease, or attempts so to do, shall be guilty of a misdemeanor and shall be punished by imprisonment not to exceed one year or by fine not to exceed \$1,000, or both. (Oct. 17, 1940, ch. 888, § 304, as added Oct. 6, 1942, ch. 581, § 12, 56 Stat. 772.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 533, 535 to 548 and 560 to 590 of this Appendix.

§ 535. Protection of assignor of life insurance policy; enforcement of storage liens; penalties.

(1) Where any life insurance policy on the life of a person in military service has been assigned prior to such person's period of military service to secure the payment of any obligation of such person, no assignee of such policy (except the insurer in connection with a policy loan) shall, during the period of military service of the insured or within one year thereafter, except upon the consent in writing of the insured made during such period or when the premiums thereon are due and unpaid or upon the death of the insured, exercise any right or option by virtue of such assignment unless upon leave of court granted upon an application made therefor

by such assignee. The court may thereupon refuse to grant such leave unless in the opinion of the court the ability of the obligor to comply with the terms of the obligation is not materially affected by reason of his military service. For the purpose of this subsection premiums which are guaranteed under the provisions of article IV of this Act [sections 540 to 548 of this Appendix] shall not be deemed to be due and unpaid.

(2) No person shall exercise any right to foreclose or enforce any lien for storage of household goods, furniture, or personal effects of a person in military service during such person's period of military service and for three months thereafter except upon an order previously granted by a court upon application therefor and a return thereto made and approved by the court. In such proceeding the court may, after hearing, in its discretion, on its own motion, and shall, on application to it by such person in military service or some person on his behalf, unless in the opinion of the court the ability of the defendant to pay the storage charges due is not materially affected by reason of his military service—

(a) stay the proceedings as provided in this Act [sections 501 to 548 and 560 to 590 of this Appendix]; or

(b) make such other disposition of the case as may be equitable to conserve the interest of all parties.

The enactment of the provisions of this subsection shall not be construed in any way as affecting or as limiting the scope of section 302 of this Act [section 532 of this Appendix].

(3) Any person who shall knowingly take any action contrary to the provisions of this section, or attempts so to do, shall be guilty of a misdemeanor and shall be punished by imprisonment not to exceed one year or by fine not to exceed \$1,000, or both. (Oct. 17, 1940, ch. 888, § 305, as added Oct. 6, 1942, ch. 581, § 12, 56 Stat. 773.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 534, 536 to 548 and 560 to 590 of this Appendix.

§ 536. Extension of benefits to dependents.

Dependents of a person in military service shall be entitled to the benefits accorded to persons in military service under the provisions of this article [sections 530 to 536 of this Appendix] upon application to a court therefor, unless in the opinion of the court the ability of such dependents to comply with the terms of the obligation, contract, lease, or bailment has not been materially impaired by reason of the military service of the person upon whom the applicants are dependent. (Oct. 17, 1940, ch. 888, § 306, as added Oct. 6, 1942, ch. 581, § 12, 56 Stat. 773.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 535, 540 to 548 and 560 to 590 of this Appendix and title 12 sections 1710, 1739, 1750c.

ARTICLE IV.—INSURANCE

PAIOR PROVISIONS

The provisions of "Article IV—Insurance" of act Oct. 17, 1940, ch. 888, 54 Stat. 1183, were amended by act Oct. 6, 1942, ch. 581, § 13, 56 Stat. 773, to read as incorporated in sections 540—548 of this Appendix.

Prior to act Oct. 6, 1942, constituting the Soldiers' and Sailors' Civil Relief Act Amendments of 1942, "Article IV—Insurance" consisted of sections 400—414 of act Oct. 17, 1940, which were incorporated in sections 540—554 of this Appendix. For text of sections 400—414 of act Oct. 17, 1940, as originally enacted, see notes to sections 540—554 of this Appendix.

§ 540. Definitions.

As used in this article [sections 540 to 548 of this Appendix]—

(a) The term "policy" shall include any contract of life insurance or policy on a life, endowment, or term plan, including any benefit in the nature of life insurance arising out of membership in any fraternal or beneficial association, which does not provide for the payment of any sum less than the face value thereof or for the payment of an additional amount as premiums if the insured engages in the military service of the United States as defined in section 101 of article I of this Act [section 511 of this Appendix] or which does not contain any limitation or restriction upon coverage relating to engagement in or pursuit of certain types of activities which a person might be required to engage in by virtue of his being in such military service, and (1) which is in force on a premium-paying basis at the time of application for benefits hereunder, and (2) which was made and a premium paid thereon before the date of enactment of the Soldiers' and Sailors' Civil Relief Act Amendments of 1942 [Oct. 6, 1942 or not less than one hundred and eighty days before the date the insured entered into the military service. The provisions of this Act [sections 501 to 548 and 560 to 590 of this Appendix] shall not be applicable to policies or contracts of life insurance issued under the War Risk Insurance Act, as amended, the World War Veterans Act, as amended, or the National Service Life Insurance Act of 1940, as amended.

(b) The term "premium" shall include the amount specified in the policy as the stipend to be paid by the insured at regular intervals during the period therein stated.

(c) The term "insured" shall include any person in the military service of the United States as defined in section 101, article I, of this Act [section 511 of this Appendix], whose life is insured under and who is the owner and holder of and has an interest in a policy as above defined.

(d) The term "insurer" shall include any firm, corporation, partnership, or association chartered or authorized to engage in the insurance business and to issue a policy as above defined by the laws of a State of the United States or the United States. (Oct. 17, 1940, ch. 888, § 400, 54 Stat. 1183; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 773; July 11, 1956, ch. 570, § 1, 70 Stat. 528.)

REFERENCES IN TEXT

The Soldiers' and Sailors' Civil Relief Act Amendments of 1942, referred to in subsec. (a), amended, among other sections, this section. For other sections affected, see note under section 501, of this Appendix.

The War Risk Insurance Act, as amended, referred to in subsec. (a), was act Oct. 6, 1917, ch. 105, 40 Stat. 398, as amended, which was repealed by Pub. L. 85-56, Title XXII, 2302 (96), June 17, 1957, 71 Stat. 166.

The World War Veteran's Act as amended, referred to in subsec. (a), was act June 27, 1924, ch. 320, title I, 43 Stat. 607, as amended, which was repealed by Pub. L. 85-857, § 14 (51), Sept. 2, 1958, 72 Stat. 1271, and subject

matter of which is now generally covered by subchapter II of chapter 19 of Title 38, Veterans' Benefits.

The National Service Life Insurance Act of 1940, as amended, referred to in subsec. (a) was act Oct. 8, 1940, ch. 757, title VI, pt. 1, 54 Stat. 1008, as amended, which was repealed by Pub. L. 85-857, § 14 (75), Sept. 2, 1958, 72 Stat. 1272, and is now generally covered by chapter 19 of Title 38, Veterans' Benefits.

AMENDMENTS

1956—Subsec. (a). Act July 11, 1956, substituted "one hundred and eighty" for "thirty" preceding the words "days before the date the insured entered into the military service".

EFFECTIVE DATE OF 1956 AMENDMENT

Section 2 of act July 11, 1956, provided that the amendment to subsec. (a) should take effect with respect to applications for benefits made after July 11, 1956.

PRIOR PROVISIONS

Section 400 of act Oct. 17, 1940, as originally enacted, which, by the provisions of section 408 of act Oct. 17, 1940 as amended and incorporated in section 548 of this Appendix, is continued in force as to applications for protection executed prior to Oct. 8, 1942, read: "In this article the term 'policy' shall include any contract of life insurance on the level premium or legal reserve plan. It shall also include any benefit in the nature of life insurance arising out of membership in any fraternal or beneficial association; the term 'premium' shall include membership dues or assessments in such association, and the date of issuance of policy as herein limited shall refer to the date of admission to membership in such association; the term 'insured' shall include any person who is the holder of a policy as defined in this article; the term 'insurer' shall include any corporation, partnership, or other form of association which secures or provides insurance under any policy as defined in this article."

VETERANS' LIFE INSURANCE REFUNDS

Pub. L. 85-586 Aug. 1, 1958, 72 Stat. 487, authorized the Administrator of Veterans' Affairs to make refunds, without interest, which are due on account of amounts collected by the United States Government by offset or otherwise from persons who made valid application for and were legally entitled to the protection of article IV of the Soldiers' and Sailors' Civil Relief Act of 1940, former sections 540-554 of this Appendix, as it existed prior to the amendments of October 8, 1942, application to be made to the Veterans' Administration, within two years after Aug. 1, 1958 and authorized appropriation of additional sums for such purposes.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 536, 541 to 548 and 560 to 590 of this Appendix.

§ 541. Persons entitled to benefits of article; applications; amount of insurance protected.

The benefits and privileges of this article [sections 540 to 548 of this Appendix] shall apply to any insured, when such insured, or a person designated by him, or, in case the insured is outside the continental United States (excluding Alaska and the Panama Canal Zone), a beneficiary, shall make written application for protection under this article [said sections], unless the Administrator of Veterans' Affairs in passing upon such application as provided in this article [said sections] shall find that the policy is not entitled to protection hereunder. The Veterans' Administration shall give notice to the military and naval authorities of the provisions of this article [said sections], and shall include in such notice an explanation of such provisions for the information of those desiring to make application for the benefits thereof. The original of such application shall be sent by the insured to the insurer, and a copy thereof to the Veterans' Administration. The total

amount of insurance on the life of one insured under policies protected by the provisions of this article (said sections) shall not exceed \$10,000. If an insured makes application for protection of policies on his life totaling insurance in excess of \$10,000, the Administrator is authorized to have the amount of insurance divided into two or more policies so that the protection of this article (said sections) may be extended to include policies for a total amount of insurance not to exceed \$10,000, and a policy which affords the best security to the Government shall be given preference. (Oct. 17, 1940, ch. 888, § 401, 54 Stat. 1183; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 774.)

PRIOR PROVISIONS

Section 401 of act Oct. 17, 1940, as originally enacted, which, by the provisions of section 408 of act Oct. 17, 1940 as amended and incorporated in section 548 of this Appendix, is continued in force as to applications for protection executed prior to Oct. 6, 1942, read:

"(1) The benefits of this article shall apply to any person in military service who is the holder of a policy of life insurance, when such holder shall apply for such benefits on a form prepared in accordance with regulations which shall be prescribed by the Administrator of Veterans' Affairs. Such form shall set forth particularly that the application therein made is a consent to such modification of the terms of the original contract of insurance as are made necessary by the provisions of this article and by receiving and filing the same the insurer shall be deemed to have assented thereto, to the extent, if any, to which the policy on which the application is made is within the provisions of this article. The original of such application shall be sent by the insured to the insurer, and a copy thereof to the Veterans' Administration.

"(2) The Veterans' Administration shall issue through suitable military and naval channels a notice for distribution by appropriate military and naval authorities to persons in the military service explaining the provisions of this article and shall furnish forms to be distributed to those desiring to make application for its benefits."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 540, 548 to 549 and 560 to 590 of this Appendix.

§ 542. Form of application; reports to Veterans' Administration by insurer; policy deemed modified upon application for protection.

Any writing signed by the insured and identifying the policy and the insurer, and agreeing that his rights under the policy are subject to and modified by the provisions of this article (sections 540 to 548 of this Appendix), shall be sufficient as an application for the benefits of this article (said sections), but the Veterans' Administration may require the insured and insurer to execute such other forms as may be deemed advisable. Upon receipt of the application of the insured the insurer shall furnish such report to the Veterans' Administration concerning the policy as shall be prescribed by regulations. The insured who has made application for protection under this article (said sections) and the insurer shall be deemed to have agreed to such modification of the policy as may be required to give this article (said sections) full force and effect with respect to such policy. (Oct. 17, 1940, ch. 888, § 401, 54 Stat. 1183; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 774.)

PRIOR PROVISIONS

Section 402 of act Oct. 17, 1940, as originally enacted, which, by the provisions of section 408 of act Oct. 17, 1940 as amended and incorporated in section 548 of this

Appendix, is continued in force as to applications for protection executed prior to Oct. 6, 1942, read:

"The benefits of this act shall be available to any person in military service in respect of contracts of insurance in force under their terms up to but not exceeding a face value of \$5,000, irrespective of the number of policies held by such person whether in one or more companies, when such contracts were made and a premium was paid thereon before the date of approval of this act or not less than thirty days before entry into the military service; but in no event shall the provisions of this article apply to any policy on which premiums are due and unpaid for a period of more than one year at the time when application for the benefits of this article is made or in respect of any policy on which there is outstanding a policy loan or other indebtedness equal to or greater than 50 per centum of the cash surrender value of the policy."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 541, 543 to 548 and 560 to 590 of this Appendix.

§ 543. Determination of policies entitled to protection; notice to parties; lapse of policies for nonpayment of premiums, etc.

The Administrator of Veterans' Affairs shall find whether the policy is entitled to protection under this article (sections 540 to 548 of this Appendix) and shall notify the insured and the insurer of such finding. Any policy found by the Administrator of Veterans' Affairs to be entitled to protection under this article (said sections) shall not, subsequent to date of application, and during the period of military service of the insured or during two years after the expiration of such service, lapse or otherwise terminate or be forfeited for the nonpayment of a premium becoming due and payable, or the nonpayment of any indebtedness or interest. (Oct. 17, 1940, ch. 888, § 403, 54 Stat. 1184; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 775.)

PRIOR PROVISIONS

Section 403 of act Oct. 17, 1940, as originally enacted, which, by the provisions of section 408 of act Oct. 17, 1940 as amended and incorporated in section 548 of this Appendix, is continued in force as to applications for protection executed prior to Oct. 6, 1942, read:

"The Veterans' Administration shall, subject to regulations, which shall be prescribed by the Administrator of Veterans' Affairs, compile and maintain a list of such persons in military service as have made application for the benefits of this article, and shall (1) reject any application for such benefits made by persons who are not persons in military service; (2) reject any applications for such benefits in excess of the amount permitted by section 402 (section 542 of this Appendix); and (3) reject any applications in respect of contracts of insurance otherwise not entitled to the benefits of this article. Said Administration shall immediately notify the insurer and the insured in writing of every rejection or approval."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 542, 544 to 548 and 560 to 590 of this Appendix.

§ 544. Rights and privileges of insured during period of protection.

No dividend or other monetary benefit under a policy shall be paid to an insured or used to purchase dividend additions while a policy is protected by the provisions of this article (sections 540 to 548 of this Appendix) except with the consent and approval of the Veterans' Administration. If such consent is not procured, such dividends or benefits shall be added to the value of the policy to be used as a credit when final settlement is made with

the insurer. No cash value, loan value, or withdrawal of dividend accumulation, or unearned premium, or other value of similar character shall be available to the insured while the policy is protected under this article [said sections] except upon approval by the Veterans' Administration. The insured's right to change a beneficiary designation or select an optional settlement for a beneficiary shall not be affected by the provisions of this article [said sections]. (Oct. 17, 1940, ch. 888, § 404, 54 Stat. 1184; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 775.)

PRIOR PROVISIONS

Section 404 of act Oct. 17, 1940, as originally enacted, which, by the provisions of section 408 of act Oct. 17, 1940, as amended and incorporated in section 548 of this Appendix, is continued in force as to applications for protection executed prior to Oct. 6, 1942, read:

"When one or more applications are made under this article by any one person in military service in respect of insurance exceeding a total face value of \$5,000, whether on one or more policies or in one or more companies, and the insured shall not in his application indicate an order of preference, the Veterans' Administration shall reject such policies as have the inferior cash surrender value, so as to reduce the total benefits conferred within the face value of \$5,000, and where necessary for this purpose shall direct the insurer to divide any policy into two separate policies. The said Administration shall immediately notify the insurer and the insured in writing of such selection."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 543, 545 to 548 and 560 to 590 of this Appendix.

§ 545. Deduction of unpaid premiums upon settlement of policies maturing during protection.

In the event of maturity of a policy as a death claim or otherwise before the expiration of the period of protection under the provisions of this article [sections 540 to 548 of this Appendix], the insurer in making settlement will deduct from the amount of insurance the premiums guaranteed under this article [said sections], together with interest thereon at the rate fixed in the policy for policy loans. If no rate of interest is specifically fixed in the policy, the rate shall be the rate fixed for policy loans in other policies issued by the insurer at the time the policy brought under the Act [sections 501 to 548 and 560 to 590 of this Appendix] was issued. The amount deducted by reason of the protection afforded by this article [sections 540 to 548 of this Appendix] shall be reported by the insurer to the Administrator of Veterans' Affairs. (Oct. 17, 1940, ch. 888, § 405, 54 Stat. 1184; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 775.)

PRIOR PROVISIONS

Section 405 of act Oct. 17, 1940, as originally enacted, which, by the provisions of section 408 of act Oct. 17, 1940 as amended and incorporated in section 548 of this Appendix, is continued in force as to applications for protection executed prior to Oct. 6, 1942, read:

"No policy which has not lapsed for the nonpayment of premium before the commencement of the period of military service of the insured, and which has been brought within the benefits of this article, shall lapse or be forfeited for the nonpayment of premium during the period of such service or during one year after the expiration of such period: Provided, That in no case shall this prohibition extend for more than one year after the date when this Act ceases to be in force."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 544, 545 to 548 and 560 to 590 of this Appendix.

§ 546. Guaranty of premiums and interest by United States; settlement of amounts due upon expiration of protection; subrogation of United States; crediting debt repayments.

Payment of premiums and interest thereon at the rate specified in section 405 hereof [section 545 of this Appendix] becoming due on a policy while protected under the provisions of this article [sections 540 to 548 of this Appendix] is guaranteed by the United States, and if the amount so guaranteed is not paid to the insurer prior to the expiration of the period of insurance protection under this article [said sections], the amount then due shall be treated by the insurer as a policy loan on such policy, but if at the expiration of said period the cash surrender value is less than the amount then due, the policy shall then cease and terminate and the United States shall pay the insurer the difference between such amount and the cash surrender value. The amount paid by the United States to an insurer on account of applications approved under the provisions of this article, as amended [said sections], shall become a debt due to the United States by the insured on whose account payment was made and, notwithstanding any other Act, such amount may be collected either by deduction from any amount due said insured by the United States or as otherwise authorized by law. Any moneys received as repayment of debts incurred under this article, as originally enacted and as amended [said sections], shall be credited to the appropriation for the payment of claims under this article [said sections]. (Oct. 17, 1940, ch. 888, § 406, 54 Stat. 1184; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 775; Apr. 3, 1948, ch. 170, § 6, 62 Stat. 160.)

AMENDMENTS

1948—Act Apr. 3, 1948, added last sentence to section.

PRIOR PROVISIONS

Section 406 of act Oct. 17, 1940, as originally enacted, which, by the provisions of section 408 of act Oct. 17, 1940 as amended and incorporated in section 548 of this Appendix, is continued in force as to applications for protection executed prior to Oct. 6, 1942, read:

"Within the first fifteen days of each calendar month after the date of approval of this Act until the expiration of one year after the date when this Act ceases to be in force every insurance corporation or association to which application has been made as herein provided, for the benefits of this article, shall render to the Veterans' Administration a report, duly verified, setting forth the following facts:

"First. The names of the persons who have applied for such benefits, and the face value of the policies in respect of which such benefits have been applied for by such persons during the preceding calendar month.

"Second. A list as far as practicable of the premiums in respect of policies entitled to the benefits of this article, which remain unpaid on the last day of the preceding calendar month, which day is at least thirty-one days after the due date of the premiums, provided such premiums have not previously been so reported as in default.

"Third. A list of premiums which, having been previously reported as in default, have been paid by the policyholder or someone on his behalf in whole or in part during the preceding calendar month.

"Fourth. A computation of the difference between the total amount of defaulted premiums therein reported and the total amount of premiums paid as therein reported, after having been previously reported as in default. From this sum shall be deducted the total sum of any premiums previously reported as in default, upon policies in respect of which the Veterans' Administration

has, since the date of such report, rejected an application for the benefits of this article. The final sum so arrived at shall be denominated the monthly difference."

CROSS REFERENCES

Termination of war for purposes of sections 540—548 of this Appendix, see note to section 584 of this Appendix.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 545, 547, 548 and 560 to 590 of this Appendix.

§ 547. Regulations; finality of determinations.

The Administrator of Veterans' Affairs is authorized and directed to provide by regulations for such rules of procedure and forms as he may deem advisable in carrying out the provisions of this article [sections 540 to 548 of this Appendix]. The findings of fact and conclusions of law made by the Administrator of Veterans' Affairs in administering the provisions of this article [said sections] shall be final, and shall not be subject to review by any other official or agency of the Government. (Oct. 17, 1940, ch. 888, § 407, 54 Stat. 1185; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 775; Sept. 2, 1958, Pub. L. 85-857, § 14(76), 72 Stat. 1272.)

PRIOR PROVISIONS

Section 407 of act Oct. 17, 1940, as originally enacted, which, by the provisions of section 408 of act Oct. 17, 1940, as amended and incorporated in section 548 of this Appendix, is continued in force as to applications for protection executed prior to Oct. 6, 1942, read:

"The Administrator of Veterans' Affairs shall verify the computation of monthly difference reported by each insurer and shall, within ten days thereafter, deliver each month to the proper officer of such insurer, a certificate in the amount of the monthly difference certified in respect of each insurer. Such certificate shall be signed by said Administrator in the name of the United States, shall be in such form as the Administrator shall determine, shall be payable to the insurer within sixty days after the approval of the statement of account, as provided in section 411 hereof [section 551 of this Appendix], and shall bear interest at a rate to be prescribed by the Secretary of the Treasury, payable with the principal. Such certificate shall not be transferred except with the approval of said Administrator and shall remain with the insurer until settlement is made in accordance with this article."

AMENDMENTS

1958—Pub. L. 85-857 eliminated provisions which required the Administrator of Veterans' Affairs to report annually to the Congress on the administration of sections 540—548 of this Appendix. See section 214 of Title 88, Veterans' Benefits.

EFFECTIVE DATE OF 1958 AMENDMENT

Amendment of section by Pub. L. 85-857 effective Jan. 1, 1959, see section 2 of Pub. L. 85-857, set out as a note preceding Part I of Title 88, Veterans' Benefits.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 546, 548 and 560 to 590 of this Appendix.

§ 548. Law governing applications for protection prior to October 6, 1942.

(1) The provisions of this article [sections 540—548 of this Appendix] in force immediately prior to the enactment of the Soldiers' and Sailors' Civil Relief Act amendments of 1942 [Act Oct. 6, 1942, which, among other things, amended this article generally] (hereinafter in this section called "such provisions") shall remain in full force and effect with respect to all valid applications for protection executed prior to the date of enactment of the Soldiers' and Sailors' Civil Relief Act amend-

ments of 1942 [Oct. 6, 1942] and all policies to which such applications pertain shall continue to be entitled to the protection granted thereby.

(2) Any insurer under a policy accepted under such provisions shall, subject to the approval of the Administrator of Veterans' Affairs and upon complete surrender by it to the United States, within ninety days after the date of enactment of the Soldiers' and Sailors' Civil Relief Act amendments of 1942 [Oct. 6, 1942], of all certificates issued in accordance with such provisions together with all right to payment thereunder, be entitled to the guarantee of unpaid premiums and interest thereon and the mode of settlement for such policies as provided by this article, as amended [sections 540 to 548 of this Appendix]. The privileges and benefits granted by the foregoing sentence shall be in lieu of the method of settlement, and the requirement for accounts and reports prescribed by such provisions. In the event any such insurer fails to surrender within the said ninety days all such certificates and rights to payment, the accounts, reports, and settlements required to be made by such insurer under such provisions shall continue to be made as required and shall be governed by such provisions. (Oct. 17, 1940, ch. 888, § 408, 54 Stat. 1185; Oct. 6, 1942, ch. 581, § 13, 56 Stat. 776.)

REFERENCES IN TEXT

The provisions of this article in force immediately prior to the enactment of the Soldiers' and Sailors' Civil Relief Act amendments of 1942, referred to in text, are set out in notes under sections 540—548 and 549—554 of this Appendix.

The Soldiers' and Sailors' Civil Relief Act Amendments of 1942, referred to in the text, amended, among other sections, this section. For other sections affected, see note under section 501 of this Appendix.

PRIOR PROVISIONS

Section 408 of act Oct. 17, 1940, as originally enacted, continued in force by this section as amended by act Oct. 6, 1942, read: "The certificate so delivered shall be held by the respective insurers as security for the payment of the defaulted premiums with interest. To indemnify it against loss the United States shall have a first lien upon any policy receiving the benefits of this article, subject only to any lien existing at the time the policy became subject to this Act, and no loan or settlement or payment of dividend shall be made by the insurer on such policy which may prejudice the security of such lien. Before any dividend is paid or any loan or settlement is made the written consent of the Veterans' Administration must be obtained."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 547 and 560 to 590 of this Appendix.

§§ 549 to 554. Omitted.

CODIFICATION

Sections 549—554 of this Appendix were omitted from "Article IV—Insurance" in the general amendment thereof by act Oct. 6, 1942, ch. 581, § 13, 56 Stat. 775. They were from sections 409—414, respectively, of act Oct. 17, 1940, ch. 888, 54 Stat. 1185, 1186, and read:

"§ 549. *Deduction of unpaid premiums from proceeds of policies.* In the event that the military service of any person being the holder of a policy receiving the benefits of this article shall be terminated by death, the amount of any unpaid premiums, with interest at the rate provided for in the policy for policy loans, shall be deducted from the proceeds of the policy and shall be included in the next monthly report of the insurer as premiums paid. Oct. 17, 1940, ch. 888 § 409, 54 Stat. 1185.

"§ 550. *Lapsing of policy for failure to pay past due premiums upon termination of service.* If the insured

does not within one year after the termination of his period of military service pay to the insurer all past due premiums with interest thereon from their several due dates at the rate provided in the policy for policy loans, the policy shall at the end of such year immediately lapse and become void, and the insurer shall thereupon become liable to pay the cash surrender value thereof, if any: *Provided*, That if the insured is in the military service when this Act ceases to be in force, such lapse shall occur and surrender value be payable at the expiration of one year after the date when this Act ceases to be in force Oct. 17, 1940, ch. 888, § 410, 54 Stat. 1185.

"§ 551. *Accounts stated between insurers and United States.* At the expiration of one year after the date when this Act ceases to be in force there shall be an account stated between each insurer and the United States, in which there shall be credited to the insurer the total amount of the certificates held as security under this article, together with accrued interest to the date of the account, and in which there shall be credited to the United States the amount of the cash surrender value of each policy lapsed or forfeited as provided in section 410 [section 550 of this Appendix], but not in any case a greater amount on any policy than the total of the unpaid premiums with interest thereon at the rate provided for in the policy for policy loans. Oct. 17, 1940, ch. 888, § 411, 54 Stat. 1185.

"§ 552. *Payment of balances due insurers by Secretary of Treasury.* The balance in favor of the insurer in each case shall be certified by the Administrator of Veterans' Affairs to the Secretary of the Treasury, who shall pay to the insurer the amount thereof, which is hereby authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, upon the surrender by the insurer of the certificates delivered to it from time to time by the Administrator of Veterans' Affairs under the provisions of this article. Oct. 17, 1940, ch. 888, § 412, 54 Stat. 1185.

"§ 553. *Policies exempted from application of article.* This article shall not apply to any policy which is void or which may at the option of the insured be voidable, if the insured is in military service, either in this country or abroad, nor to any policy which as a result of being in military service, either in this country or abroad, provides for the payment of any sum less than the face thereof or for the payment of an additional amount as premium. Oct. 17, 1940, ch. 888, § 413, 54 Stat. 1186.

"§ 554. *Insurers within application of article.* This article shall apply only to insurance companies or associations which are required, by the law under which they are organized or doing business to maintain a reserve, or, which if not so required, have made or shall make provision for the collection from all those insured in such insurer of a premium to cover the special war risk of those insured persons who are in military service. Oct. 17, 1940, ch. 888, § 414, 54 Stat. 1186."

ARTICLE V.—TAXES AND PUBLIC LANDS

§ 560. Taxes respecting personalty, money, credits, or realty; sale of property to enforce collection; redemption of property sold; penalty for nonpayment; notice of rights to beneficiaries of section.

(1) The provisions of this section shall apply when any taxes or assessments, whether general or special (other than taxes on income), whether falling due prior to or during the period of military service, in respect of personal property, money, or credits, or real property owned and occupied for dwelling, professional, business, or agricultural purposes by a person in military service or his dependents at the commencement of his period of military service and still so occupied by his dependents or employees are not paid.

(2) No sale of such property shall be made to enforce the collection of such tax or assessment, or any proceeding or action for such purpose commenced, except upon leave of court granted upon application made therefor by the collector of taxes or

other officer whose duty it is to enforce the collection of taxes or assessments. The court thereupon, unless in its opinion the ability of the person in military service to pay such taxes or assessments is not materially affected by reason of such service, may stay such proceedings or such sale, as provided in this Act [sections 501 to 548 and 560 to 590 of this Appendix], for a period extending not more than six months after the termination of the period of military service of such person.

(3) When by law such property may be sold or forfeited to enforce the collection of such tax or assessment, such person in military service shall have the right to redeem or commence an action to redeem such property, at any time not later than six months after the termination of such service, but in no case later than six months after the date when this Act [said sections] ceases to be in force; but this shall not be taken to shorten any period, now or hereafter provided by the laws of any State or Territory for such redemption.

(4) Whenever any tax or assessment shall not be paid when due, such tax or assessment due and unpaid shall bear interest until paid at the rate of 6 per centum per annum, and no other penalty or interest shall be incurred by reason of such nonpayment. Any lien for such unpaid taxes or assessment shall also include such interest thereon. (Oct. 17, 1940, ch. 888, § 500, 54 Stat. 1186; Oct. 6, 1942, ch. 581, § 14, 56 Stat. 776.)

AMENDMENTS

1942—Subsec. (1). Act Oct. 6, 1942, inserted parenthetical clause excepting income taxes, included taxes and assessments falling due prior to period of military service, and extended benefits to cover personal property, money, or credits, and real property owned and occupied for professional purposes.

Subsec. (2). Act Oct. 6, 1942, § 14(a), amended section generally.

Subsec. (5). Act Oct. 6, 1942, § 14(b), repealed subsec. (5), which required the Secretaries of War, Navy, and Treasury to give notice of the benefits of this section to persons in the military service.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548 and 561 to 590 of this Appendix.

§ 561. Rights to public lands not forfeited; grazing lands.

(1) No right to any lands owned or controlled by the United States initiated or acquired under any laws of the United States, including the mining and mineral leasing laws, by any person prior to entering military service shall during the period of such service be forfeited or prejudiced by reason of his absence from the land or his failure to perform any work or make any improvements thereon or his failure to do any other act required by or under such laws.

(2) If a permittee or licensee under the Act of June 28, 1934 (48 Stat. 1269) [sections 315 to 315g, 315h to 315m, 315n, 315o-1 and 1171 of Title 43] enters military service, he may elect to suspend his permit or license for the period of his military service and six months thereafter, and the Secretary of the Interior by regulations shall provide for such suspension of permits and licenses and for the remission, reduction, or refund of grazing fees during such suspension.

(3) This section shall not be construed to control specific requirements contained in this article [sections 560 to 574 of this Appendix]. (Oct. 17, 1940, ch. 888, § 501, 54 Stat. 1187.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 and 562 to 590 of this Appendix.

§ 562. Homestead entries and settlement claims; service as equivalent to residence and cultivation.

If any person whose application for a homestead entry has been allowed or who has made application for homestead entry which may thereafter be allowed, after such entry or application enters military service, or if any person who has a valid settlement claim enters military service, the Department of the Interior shall construe his military service to be equivalent to residence and cultivation upon the tract entered or settled upon for the period of such service. From the effective date of this Act (Oct. 17, 1940) no contest shall be initiated on the ground of abandonment and no allegation of abandonment shall be sustained against any such person, unless it shall be alleged in the preliminary affidavit or affidavits of contest and proved at the hearing in cases initiated subsequent to the effective date of this Act (Oct. 17, 1940) that the alleged absence from the land was not due to such military service. If such person is discharged on account of wounds received or disability incurred in the line of duty, the term of his enlistment and any period of hospitalization due to such wounds or disability shall be deducted from the required length of residence, without reference to the time of actual service. No patent shall issue to any such person who has not resided upon, improved, and cultivated his homestead for a period of at least one year. (Oct. 17, 1940, ch. 888, § 502, 54 Stat. 1187.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560, 561 and 563 to 590 of this Appendix.

§ 563. Same; death or incapacity during or resulting from service as affecting rights; perfection of rights.

(1) If any person whose application for a homestead entry has been allowed or who has made application for homestead entry which may thereafter be allowed or who has a valid settlement claim dies while in military service or as a result of such service, his widow, if unmarried, or in the case of her death or marriage, his minor children, or his or their legal representatives, may proceed forthwith to make final proof upon such entry or upon an application which is allowed after the applicant's death, or upon a homestead application thereafter allowed based on a valid settlement claim, and shall be entitled to receive a patent for such land. The death of such person while in military service or as a result of such service shall be construed to be equivalent to a performance of all requirements as to residence and cultivation upon such homestead or claim, notwithstanding the provisions of section 502 of this Act [section 562 of this Appendix].

(2) If such person is honorably discharged and because of physical incapacities due to such service

is unable to return to the land, he may make final proof without further residence, improvement, or cultivation, at such time and place as the Secretary of the Interior may authorize, and receive a patent to the land entered.

(3) The Act of July 28, 1917 (40 Stat. 248) [sections 241 and 242 of Title 43], is repealed. (Oct. 17, 1940, ch. 888, § 503, 54 Stat. 1187.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 562 and 564 to 590 of this Appendix.

§ 564. Desert-land entries; suspension of requirements.

(1) No desert-land entry made or held under the desert-land laws prior to the entrance of the entryman or his successor in interest into military service shall be subject to contest or cancelation for failure to make or expend the sum of \$1 per acre per year in improvements upon the claim or to effect the reclamation of the claim during the period the entryman or his successor in interest is engaged in military service or during a period of six months thereafter or during any period of hospitalization because of wounds or disability incurred in the line of duty. The time within which such entryman or claimant is required to make such expenditures and effect reclamation of the land shall be exclusive of his period of service and the six-months' period and any such period of hospitalization.

(2) If such entryman or claimant is honorably discharged and because of physical incapacities due to such service is unable to accomplish reclamation of, and payment for, the land, he may make proof without further reclamation or payments under such rules as the Secretary of the Interior may prescribe and receive patent for the land entered or claimed.

(3) In order to obtain the benefits of this section, such entryman or claimant shall, within six months after the effective date of this Act (Oct. 17, 1940) or within six months after his entrance into military service, file or cause to be filed in the land office of the district in which his claim is situated a notice that he has entered military service and that he desires to hold the desert claim under this section. (Oct. 17, 1940, ch. 888, § 504, 54 Stat. 1187.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 563 and 565 to 590 of this Appendix.

§ 565. Mining claims; requirements suspended.

(1) The provisions of section 2324 of the Revised Statutes of the United States [section 28 of Title 30], which require that on each mining claim located after May 10, 1872, and until patent has been issued therefor not less than \$100 worth of labor shall be performed or improvements made during each year, shall not apply during the period of his service, or until six months after the termination of such service, or during any period of hospitalization because of wounds or disability incurred in line of duty, to claims or interests in claims which are owned by a person in military service and which have been regularly located and recorded. No mining claim or any interest in a claim which is owned by such a person and which has been regularly located and recorded shall be subject to forfeiture by nonperformance of the annual assessments during the period

of such military service, or until six months after the termination of such service or of such hospitalization.

(2) In order to obtain the benefits of this section, the claimant of any mining location shall, before the expiration of the assessment year during which he enters military service, file or cause to be filed in the office where the location notice or certificate is recorded a notice that he has entered such service and that he desires to hold his mining claim under this section. (Oct. 17, 1940, ch. 888, § 505, 54 Stat. 1188.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 564 and 566 to 590 of this Appendix.

§ 566. Mineral permits and leases; suspension of operations and term of permits and leases.

(1) Any person holding a permit or lease on the public domain under the Federal mineral leasing laws who enters military service may, at his election, suspend all operations under his permit or lease for a period of time equivalent to the period of his military service and six months thereafter. The term of the permit or lease shall not run during such period of suspension nor shall any rentals or royalties be charged against the permit or lease during the period of suspension.

(2) In order to obtain the benefit of this section, such permittee or lessee shall, within six months after the effective date of this Act (Oct. 17, 1940), or six months after his entrance into military service, notify the Bureau of Land Management by registered mail of his entrance into such service and of his desire to avail himself of the benefits of this section.

(3) This section shall not be construed to supersede the terms of any contract for operation of a permit or lease. (Oct. 17, 1940, ch. 888, § 506, 54 Stat. 1188; 1946 Reorg. Plan No. 3, § 403, eff. July 16, 1946, 11 F. R. 7876, 60 Stat. 1100.)

TRANSFER OF FUNCTIONS

"Bureau of Land Management" was substituted for "General Land Office" on authority of 1946 Reorg. Plan No. 3, set out as a note under section 1 of Title 43, Public Lands.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 565 and 567 to 590 of this Appendix.

§ 567. Right to take action for perfection, defense, etc., of rights as unaffected; affidavits and proofs.

Nothing in this article [sections 560 to 574 of this Appendix] shall be construed to limit or affect the right of a person in military service to take any action during his period of service which may be authorized by law or the regulations of the Department of the Interior for the perfection, defense, or further assertion of rights initiated or acquired prior to the date of entering military service. It shall be lawful for any person while in such service to make any affidavit or submit any proof which may be required by law or the practice or regulations of the Bureau of Land Management in connection with the entry, perfection, defense, or further assertion of any rights initiated or acquired prior to entering such service, before the officer in immediate command and holding a commission in the branch of the service in which the person is engaged. Such

affidavits shall be as binding in law and with like penalties as if taken before an officer designated by the Secretary of the Interior of a United States land office. The Secretary of the Interior may issue rules and regulations to effectuate the purposes of sections 501 to 512, inclusive [sections 561—572 of this Appendix]. (Oct. 17, 1940, ch. 888, § 507, 54 Stat. 1188; 1946 Reorg. Plan No. 3, § 403, eff. July 16, 1946, 11 F. R. 7876, 60 Stat. 1100.)

TRANSFER OF FUNCTIONS

"Bureau of Land Management" was substituted for "General Land Office" and "an officer designated by the Secretary of the Interior" for "a register" on authority of 1946 Reorg. Plan No. 3, set out as a note under section 1 of Title 43, Public Lands.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 565 and 568 to 590 of this Appendix.

§ 568. Irrigation rights; residence requirements suspended.

The Secretary of the Interior is authorized, in his discretion, to suspend as to persons in military service during the period while this Act [sections 501 to 548 and 560 to 590 of this Appendix] remains in force and for a period of six months thereafter or during any period of hospitalization because of wounds or disability incurred in line of duty that provision of the act known as the "Reclamation Act" requiring residence upon lands in private ownership or within the neighborhood for securing water for the irrigation of the same [section 431 of Title 43], and he is authorized to permit the use of available water thereon upon such terms and conditions as he may deem proper. (Oct. 17, 1940, ch. 888, § 508, 54 Stat. 1189.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 567 and 569 to 590 of this Appendix.

§ 569. Distribution of information concerning benefits of article; forms.

The Secretary of the Interior shall issue through appropriate military and naval channels a notice for distribution by appropriate military and naval authorities to persons in the military service explaining the provisions of this article [sections 560 to 574 of this Appendix] except as to sections 500, 513, and 514 hereof [sections 560, 573 and 574 of this Appendix] and shall furnish forms to be distributed in like manner to those desiring to make application for its benefits, except as to said sections. (Oct. 17, 1940, ch. 888, § 509, 54 Stat. 1189; Oct. 6, 1942, ch. 581, § 15, 56 Stat. 776.)

AMENDMENTS

1942—Act Oct. 6, 1942, substituted "sections 500, 513, and 514" for "section 500" and "sections" for "section" at end of section.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 568 and 570 to 590 of this Appendix.

§ 570. Homestead entrymen permitted to leave entries to perform farm labor.

(1) During the pendency of any war in which the United States may be engaged while this Act [sections 501 to 548 and 560 to 590 of this Appendix] remains in force any homestead entryman shall be entitled to a leave of absence from his entry for the

purpose of performing farm labor. The time actually spent in farm labor shall be counted as constructive residence, if within fifteen days after leaving his entry to engage in such labor the entryman files a notice of absence in the land office of the district in which his entry is situated, and if at the expiration of the calendar year the entryman files in that office a written statement under oath and corroborated by two witnesses giving the date or dates when he left his entry, the date or dates of his return, and the place where and person for whom he was engaged in farm labor during such period or periods of absence.

(2) Nothing in this section shall excuse any homestead entryman from making improvements or performing the cultivation upon his entry required by law. The provisions of this section shall apply only to persons whose applications have been allowed or filed prior to the effective date of this Act (Oct. 17, 1940). (Oct. 17, 1940, ch. 888, § 510, 54 Stat. 1189.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 569 and 571 to 590 of this Appendix.

§ 571. Land rights of persons under 21.

Any person under the age of twenty-one who serves in the military service while this Act (sections 501 to 548 and 560 to 590 of this Appendix) remains in force shall be entitled to the same rights under the laws relating to lands owned or controlled by the United States, including the mining and mineral leasing laws, as those over twenty-one now possess under such laws. Any requirements as to establishment of residence within a limited time shall be suspended as to entry by such person until six months after his discharge from military service. Applications for entry may be verified before any officer in the United States or any foreign country authorized to administer oaths by the laws of the State or Territory in which the land may be situated. (Oct. 17, 1940, ch. 888, § 511, 54 Stat. 1189.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 570 and 572 to 590 of this Appendix.

§ 572. Extension of benefits to persons serving with war allies of United States.

Citizens of the United States who serve with the forces of any nation with which the United States may be allied in the prosecution of any war in which the United States engages while this Act (sections 501 to 548 and 560 to 590 of this Appendix) remains in force shall be entitled to the relief and benefits afforded by sections 501 to 511, inclusive (sections 561 to 571 of this Appendix), if such service is similar to military service as defined in this Act (sections 501 to 548 and 560 to 590 of this Appendix), and if they are honorably discharged and resume United States citizenship or die in the service of the allied forces or as a result of such service. (Oct. 17, 1940, ch. 888, § 512, 54 Stat. 1190; Oct. 6, 1942, ch. 581, § 16, 56 Stat. 776.)

AMENDMENTS

1942—Act Oct. 6, 1942, substituted "sections 501 to 511, inclusive" for "this article."

REPEAL OF PRIOR ACTS CONTINUING SECTION

Section 6 of Joint Res. July 3, 1952, repealed Joint Res. Apr. 14, 1952, ch. 204, 66 Stat. 84 as amended by

Joint Res. May 28, 1952, ch. 339, 66 Stat. 96; Joint Res. June 14, 1952, ch. 437, 66 Stat. 137; Joint Res. June 20, 1952, ch. 526, 66 Stat. 296, which continued provisions until July 3, 1952. This repeal shall take effect as of June 16, 1952, by section 7 of Joint Res. July 3, 1952.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 571 and 574 to 590 of this Appendix.

§ 573. Income taxes; collection deferred; interest; statute of limitations.

The collection from any person in the military service of any tax on the income of such person, whether falling due prior to or during his period of military service, shall be deferred for a period extending not more than six months after the termination of his period of military service if such person's ability to pay such tax is materially impaired by reason of such service. No interest on any amount of tax, collection of which is deferred for any period under this section, and no penalty for nonpayment of such amount during such period, shall accrue for such period of deferment by reason of such nonpayment. The running of any statute of limitations against the collection of such tax by distraint or otherwise shall be suspended for the period of military service of any individual the collection of whose tax is deferred under this section, and for an additional period of nine months beginning with the day following the period of military service. The provisions of this section shall not apply to the income tax on employees imposed by section 1400 of the Federal Insurance Contributions Act. (Oct. 17, 1940, ch. 888, § 513, 54 Stat. 1190.)

REFERENCES IN TEXT

Section 1400 of the Federal Insurance Contributions Act, referred to in the text, is a reference to section 1400 of Title 26, I.R.C. 1939, which was repealed by section 7851 of Title 26, I.R.C. 1954, and is now covered by section 3101 of Title 26, I.R.C. 1954. For provision deeming a reference in other laws to a provision of I.R.C. 1939, also as a reference to corresponding provision of I.R.C. 1954, see section 7852(b) of Title 26, I.R.C. 1954.

FORMER PROVISIONS FOR ABATEMENT OF TAX

Internal Revenue Code, § 421, as added by act June 9, 1943, 7 p. m., E. W. T., ch. 120, § 8, 57 Stat. 149, and amended by acts Aug. 5, 1947, ch. 496, § 1, 61 Stat. 778; Aug. 8, 1947, ch. 515, § 9, 61 Stat. 918 (section 421 of Title 26, I.R.C. 1939), provided for abatement of income tax for members of armed forces dying on or after December 7, 1941, while in active service and prior to January 1, 1948. These provisions were omitted in the general amendment of that section by act Sept. 23, 1950, 3:15 p.m., E.D.T., ch. 994, title III, part I, § 301, 64 Stat. 947.

EXTENSION OF DUE DATE UNDER OTHER LAWS

Section 507 (b) (2) (A) of the Revenue Act of 1942, act Oct. 21, 1942, 4:30 p. m., E. W. T., ch. 619, title V, 56 Stat. 964, provided: "The amendments made by this section [adding sections 3804 and 3805 of Title 26, I.R.C. 1939, and adding section 527 of this Appendix] shall not be construed to shorten any period fixed under the provisions of section 518 of the Soldiers' and Sailors' Civil Relief Act of 1940 [this section] within which any act may be done, except that any action or proceeding authorized under section 3804(d) (1) of the Internal Revenue Code [Title 26, I.R.C. 1939], as well as any other action or proceeding authorized by law in connection therewith, may be taken, begun, or prosecuted without regard to the period so fixed."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 572 and 574 to 590 of this Appendix.

§ 574. Residence for tax purposes.

(1) For the purposes of taxation in respect of any person, or of his personal property, income, or gross income, by any State, Territory, possession, or political subdivision of any of the foregoing, or by the District of Columbia, such person shall not be deemed to have lost a residence or domicile in any State, Territory, possession, or political subdivision of any of the foregoing, or in the District of Columbia solely by reason of being absent therefrom in compliance with military or naval orders, or to have acquired a residence or domicile in, or to have become resident in or a resident of, any other State, Territory, possession, or political subdivision of any of the foregoing, or the District of Columbia, while, and solely by reason of being, so absent. For the purposes of taxation in respect of the personal property, income, or gross income of any such person by any State, Territory, possession, or political subdivision of any of the foregoing, or the District of Columbia, of which such person is not a resident or in which he is not domiciled, compensation for military or naval service shall not be deemed income for services performed within, or from sources within, such State, Territory, possession, political subdivision, or District, and personal property shall not be deemed to be located or present in or to have a situs for taxation in such State, Territory, possession, or political subdivision, or district. Where the owner of personal property is absent from his residence or domicile solely by reason of compliance with military or naval orders, this section applies with respect to personal property, or the use thereof, within any tax jurisdiction other than such place of residence or domicile, regardless of where the owner may be serving in compliance with such orders: *Provided*, That nothing contained in this section shall prevent taxation by any State, Territory, possession, or political subdivision of any of the foregoing, or the District of Columbia in respect of personal property used in or arising from a trade or business, if it otherwise has jurisdiction. This section shall be effective as of September 8, 1939, except that it shall not require the crediting or refunding of any tax paid prior to October 6, 1942.

(2) When used in this section, (a) the term "personal property" shall include tangible and intangible property (including motor vehicles), and (b) the term "taxation" shall include but not be limited to licenses, fees, or excises imposed in respect to motor vehicles or the use thereof: *Provided*, That the license, fee, or excise required by the State, Territory, possession, or District of Columbia of which the person is a resident or in which he is domiciled has been paid. (Oct. 17, 1940, ch. 888, § 514, as added Oct. 6, 1942, ch. 581, § 17, 56 Stat. 777, and amended July 3, 1944, ch. 397, § 1, 58 Stat. 722; Oct. 9, 1962, Pub. L. 87-771, 76 Stat. 768.)

AMENDMENTS

1962—Pub. L. 87-771 inserted sentence in par. (1) making this section applicable with respect to personal property, or the use thereof, within any tax jurisdiction other than the place of residence or domicile, regardless of where the owner may be serving in compliance with military or naval orders where the owner of personal property is absent from his residence or domicile solely by reason of compliance with such orders.

1944—Act July 3, 1944, added "personal" preceding "property" in first sentence, "personal property", preceding "income or gross income", "and personal property shall * * * other has jurisdiction" following "or District" in second sentence, and substituted "October 6, 1942" for "the date of the enactment of the Soldiers' and Sailors' Civil Relief Act amendments of 1942" in the third sentence.

CREDITING OR REFUNDING TANGIBLE PERSONAL PROPERTY TAX

Section 2 of act July 3, 1944, provided: "Nothing contained in this Act [this section] shall be construed to require the crediting or refunding of any tax in respect of tangible personal property (including licenses, fees, or excise imposed in respect of motor vehicles or the use thereof) paid prior to the date of its enactment. [July 3, 1944]."

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 573 and 580 to 590 of this Appendix.

ARTICLE VI.—ADMINISTRATIVE REMEDIES

§ 580. Transfers to take advantage of act.

Where in any proceeding to enforce a civil right in any court it is made to appear to the satisfaction of the court that any interest, property, or contract has since the date of the approval of this Act (Oct. 17, 1940) been transferred or acquired with intent to delay the just enforcement of such right by taking advantage of this Act (sections 501 to 548 and 560 to 590 of this Appendix), the court shall enter such judgment or make such order as might lawfully be entered or made, the provisions of this Act (said sections) to the contrary notwithstanding. (Oct. 17, 1940, ch. 888, § 600, 54 Stat. 1190.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 574 and 581 to 590 of this title.

§ 581. Certificates of service; persons reported missing.

(1) In any proceeding under this Act (sections 501 to 548 and 560 to 590 of this Appendix) a certificate signed by The Adjutant General of the Army as to persons in the Army or in any branch of the United States service while serving pursuant to law with the Army of the United States, signed by the Chief of Naval Personnel as to persons in the United States Navy or in any other branch of the United States service while serving pursuant to law with the United States Navy, and signed by the Commandant, United States Marine Corps, as to persons in the Marine Corps, or in any other branch of the United States service while serving pursuant to law with the Marine Corps, or signed by an officer designated by any of them, respectively, for the purpose, shall when produced be prima facie evidence as to any of the following facts stated in such certificate:

That a person named has not been, or is, or has been in military service; the time when and the place where such person entered military service, his residence at that time, and the rank, branch, and unit of such service that he entered, the dates within which he was in military service, the monthly pay received by such person at the date of issuing the certificate, the time when and the place where such person died in or was discharged from such service.

(2) It shall be the duty of the foregoing officers to furnish such certificate on application, and any such certificate when purporting to be signed by any one of such officers or by any person purporting upon the face of the certificates to have been so authorized shall be prima facie evidence of its contents and of the authority of the signer to issue the same.

(3) Where a person in military service has been reported missing he shall be presumed to continue in the service until accounted for, and no period herein limited which begins or ends with the death of such person shall begin or end until the death of such person is in fact reported to or found by the Department of the Army or Navy, or any court or board thereof, or until such death is found by a court of competent jurisdiction: *Provided*, That no period herein limited which begins or ends with the death of such person shall be extended beyond a period of six months after the time when this Act [said sections] ceases to be in force. (Oct. 17, 1940, ch. 888, § 601, 54 Stat. 1190; Jan. 20, 1942, ch. 10, § 1, 56 Stat. 10; May 13, 1942, ch. 303, § 1, 56 Stat. 276.)

REFERENCES IN TEXT

The time when this Act ceases to be in force, referred to in subdivision (3), is defined in section 584 of this title.

CODIFICATION

The Department of War was designated the Department of the Army and the title of the Secretary of War was changed to Secretary of the Army by section 205(a) of act July 26, 1947, ch. 343, title II, 61 Stat. 501. Section 205(a) of act July 26, 1947, was repealed by section 53 of act Aug. 10, 1956, ch. 1041, 70A Stat. 641. Section 1 of act Aug. 10, 1956, enacted "Title 10, Armed Forces" which in sections 3011—3013 continued the military Department of the Army under the administrative supervision of a Secretary of the Army.

CHANGE OF NAME

"Chief of the Bureau of Navigation of the Navy Department" was changed to "Chief of Naval Personnel" under authority of act May 13, 1942.

Act Jan. 20, 1942, redesignated "Major General Commandant of the Marine Corps" to be "Commandant of the Marine Corps".

AIR FORCE

For transfer of certain functions relating to military records, insofar as they pertain to military personnel of the Department of the Air Force, from the Secretary of the Army and Department of the Army to the Secretary of the Air Force and Department of the Air Force, see Secretary of Defense Transfer Order No. 20 [§ 1e], Aug. 12, 1948.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 580 and 582 to 590 of this title.

§ 582. Revocation, etc., of interlocutory orders.

Any interlocutory order made by any court under the provisions of this Act [sections 501 to 548 and 560 to 590 of this Appendix] may, upon the court's own motion or otherwise, be revoked, modified, or extended by it upon such notice to the parties affected as it may require. (Oct. 17, 1940, ch. 888, § 602, 54 Stat. 1191.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 581 and 582 to 590 of this title.

§ 583. Separability of provisions.

If any provision of this Act [sections 501 to 548 and 560 to 590 of this Appendix], or the application

thereof to any person or circumstances, is held invalid, the remainder of the Act [said sections], and the application of such provision to other persons or circumstances, shall not be affected thereby. (Oct. 17, 1940, ch. 888, § 603, 54 Stat. 1191.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 582 and 584 to 590 of this title.

§ 584. Termination date.

This Act [sections 501 to 548 and 560 to 590 of this Appendix] shall remain in force until May 15, 1945: *Provided*, That should the United States be then engaged in a war, this Act [said sections] shall remain in force until such war is terminated by a treaty of peace proclaimed by the President and for six months thereafter: *Provided further*, That whenever under any section or provision of this Act [said sections] a proceeding, remedy, privilege, stay, limitation, accounting, or other transaction has been authorized or provided with respect to military service performed prior to the date herein fixed for the termination of this Act [said sections], such section or provision shall be deemed to continue in full force and effect so long as may be necessary to the exercise or enjoyment of such proceeding, remedy, privilege, stay, limitation, accounting, or other transaction. (Oct. 17, 1940, ch. 888, § 604, 54 Stat. 1191.)

EXTENSION OF ACT

Notwithstanding the provisions of Joint Res. July 26, 1947, set out in a note under this section, the entire act, sections 501—548 and 560—590 of this Appendix, are in force and effect and shall so remain until a subsequent Act of Congress terminates them, under the provisions of section 464 of this Appendix.

TERMINATION OF WAR

Joint Res. July 26, 1947, ch. 327, § 4, 61 Stat. 484, provided: "For the purposes of article IV of the Act of October 17, 1940 (54 Stat. 1183—1188), as amended [sections 540—548 of this Appendix], the present war shall be deemed to have terminated within the meaning of section 604 (54 Stat. 1191) of the said Act [this section], as of the effective date of this joint resolution [July 26, 1947]".

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 501, 510 to 548, 560 to 583 and 585 to 590 of this title.

§ 585. Inapplicability of Soldiers' and Sailors' Civil Relief Act of 1918.

CODIFICATION

Section, act Oct. 17, 1940, ch. 888, § 605, 54 Stat. 1191, related to the inapplicability of the Soldiers' and Sailors' Relief Act of 1918, former section 101 et seq. of this Appendix, to military service performed after Oct. 17, 1940.

ARTICLE VII.—FURTHER RELIEF

§ 590. Stay of enforcement of obligations, liabilities, taxes, etc.

(1) A person may, at any time during his period of military service or within six months thereafter, apply to a court for relief in respect of any obligation or liability incurred by such person prior to his period of military service or in respect of any tax or assessment whether falling due prior to or during his period of military service. The court, after appropriate notice and hearing, unless in its opinion the ability of the applicant to comply with the terms of such obligation or liability or to pay such tax or assessment has not been materially affected

by reason of his military service, may grant the following relief:

(a) In the case of an obligation payable under its terms in installments under a contract for the purchase of real estate, or secured by a mortgage or other instrument in the nature of a mortgage upon real estate, a stay of the enforcement of such obligation during the applicant's period of military service and, from the date of termination of such period of military service or from the date of application if made after such service, for a period equal to the period of the remaining life of the installment contract or other instrument plus a period of time equal to the period of military service of the applicant, or any part of such combined period, subject to payment of the balance of principal and accumulated interest due and unpaid at the date of termination of the period of military service or from the date of application, as the case may be, in equal installments during such combined period at such rate of interest on the unpaid balance as is prescribed in such contract, or other instrument evidencing the obligation, for installments paid when due, and subject to such other terms as may be just.

(b) In the case of any other obligation, liability, tax, or assessment, a stay of the enforcement thereof during the applicant's period of military service and, from the date of termination of such period of military service or from the date of application if made after such service, for a period of time equal to the period of military service of the applicant or any part of such period, subject to payment of the balance of principal and accumulated interest due and unpaid at the date of termination of such period of military service or the date of application, as the case may be, in equal periodic installments during such extended period at such rate of interest as may be prescribed for such obligation, liability, tax, or assessment, if paid when due, and subject to such other terms as may be just.

(2) When any court has granted a stay as provided in this section no fine or penalty shall accrue during the period the terms and conditions of such stay are complied with by reason of failure to comply with the terms or conditions of the obligation, liability, tax, or assessment in respect of which such stay was granted. (Oct. 17, 1940, ch. 888, § 700, as added Oct. 6, 1942, ch. 581, § 18, 56 Stat. 777.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 601, 610 to 648 and 660 to 685 of this title.

FIRST WAR POWERS ACT, 1941

ACT DEC. 18, 1941, CH. 593, 55 STAT. 838

TITLE I.—COORDINATION OF EXECUTIVE BUREAUS IN THE INTEREST OF THE MORE EFFICIENT CONCENTRATION OF THE GOVERNMENT

§§ 601 to 605. Repealed. Pub. L. 89-554, § 8(a), Sept. 6, 1966, 80 Stat. 651.

Sections, act Dec. 18, 1941, ch. 593, title I, §§ 1-5, 55 Stat. 838, 839, related to coordination of executive bureaus, offices, etc., in the interest of more efficient concentration of the Government, consolidation of offices, expenditure of appropriations for bureaus, offices, etc., Presidential recommendation to Congress for elimination of certain bureaus, offices, etc., and to suspension of conflicting laws.

TITLE II.—CONTRACTS

§ 611. Repealed. Pub. L. 89-554, § 8(a), Sept. 6, 1966, 80 Stat. 651.

Section, act Dec. 18, 1941, ch. 593, title II, § 201, 55 Stat. 830; Jan. 12, 1951, ch. 1230, § 1, 64 Stat. 1257, related to exemption of war contracts from certain restrictions.

TITLE III.—TRADING WITH THE ENEMY

§ 616. Amendment of section 5 of this Appendix and section 95a of Title 12.

CODIFICATION

Section, act Dec. 18, 1941, ch. 593, title III, § 301, 55 Stat. 839, has been omitted as executed.

§ 617. Repealed. Pub. L. 89-554, § 8(a), Sept. 6, 1966, 80 Stat. 651.

Section, act Dec. 18, 1941, ch. 593, title III, § 302, 55 Stat. 840, confirmed certain acts, etc., made under the Trading with the Enemy Act.

§ 618. Repealed. July 5, 1947, ch. 327, § 1, 61 Stat. 449.

Section, act Dec. 18, 1941, ch. 593, title III, § 303, 55 Stat. 840, related to censorship of communications during World War II and penalties and forfeitures for violations thereof.

§§ 619, 620. Omitted.

CODIFICATION

Section 619, act Dec. 18, 1941, ch. 593, title III, § 304, as added Mar. 8, 1946, ch. 83, § 1, 60 Stat. 50, was omitted as its provisions are incorporated in section 32 of this Appendix.

Section 620, act Dec. 18, 1941, ch. 593, title III, § 305, as added Aug. 8, 1946, ch. 878, § 1, 60 Stat. 925, was omitted as its provisions are incorporated in sections 33-37 of this Appendix.

TITLE IV.—TIME LIMIT AND SHORT TITLE

§§ 621, 622. Repealed. Pub. L. 89-554, § 8(a), Sept. 6, 1966, 80 Stat. 651.

Sections, act Dec. 18, 1941, ch. 593, title IV, §§ 401, 402, 55 Stat. 841, provided for the termination of sections 601-605 of this Appendix and contained the short title for former sections 601-605, 611, and 616-622 of this Appendix, the "First War Powers Act, 1941," respectively.

SECOND WAR POWERS ACT, 1942

ACT MAR. 27, 1942, CH. 199, 56 STAT. 176

TITLE I.—EMERGENCY POWERS OF THE INTERSTATE COMMERCE COMMISSION OVER MOTOR AND WATER CARRIERS

Sec. 631 to 631b. Omitted.

TITLE II.—ACQUISITION AND DISPOSITION OF PROPERTY

632, 632a. Omitted.

TITLE III.—PRIORITIES POWERS

633. Amendment of section 1152 of this Appendix.

TITLE IV.—PURCHASE BY FEDERAL RESERVE BANKS OF GOVERNMENT OBLIGATIONS

634. Federal Reserve Act amendment.

TITLE V.—WAIVER OF NAVIGATION AND INSPECTION LAWS

635. Authorization of waiver by responsible department or agency head.

TITLE VI.—POWER TO REQUISITION

636, 636a. Omitted.

TITLE VII.—POLITICAL ACTIVITY

637. Amendment of section 1181 of Title 5.



GREATER ANCHORAGE AREA BOROUGH

3500 TUDOR ROAD, POUCH 6-650

ANCHORAGE, ALASKA 99502

April 30, 1971

HB-432
GLENN M. MCKEE
ASSESSOR
278-8686

Representative William J. Moran
State House
State Capitol
Juneau, Alaska 99801

Dear Representative Moran:

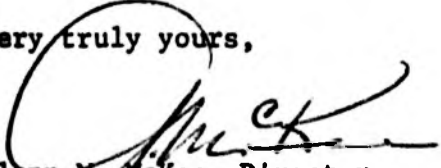
Re: House Bill No. 432.

I have been following House Bill 432 for some time. I do have one question: The Senior Citizens' Bill purpose and intent is to keep the senior citizens in Alaska where, as I read it, they can continue to make their immeasurable contributions to the younger generations.

The one problem I see with this bill is that it is for the abode of the senior citizen on Real Property only. There are numerous senior citizens who do not choose to live in a home, but would prefer to live in a trailer. Why then are we discriminating against those persons who prefer to live in a trailer and in a trailer court? It is their home, just as a person living on real property is living in his home.

I feel that if this bill is to pass that it should be amended to grant exemption from taxes on the home from those senior citizens who live in trailers, even though the trailer is not on their own property. We in the Anchorage Borough, as do most all of the other boroughs and cities in the state, classify a trailer as Personal Property. Therefore, those persons who live in trailers would not be considered under the bill as it presently exists.

Very truly yours,


Glenn M. McKee, Director
Property Assessment & Management Department

GMM:sls

cc: Mr. S. Robert Dozier, State Assessor
Local Affairs Agency
Pouch AB
Juneau, Alaska 99801

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

WILLIAM A. EGAN, GOVERNOR

POUCH M — JUNEAU 99801

April 13, 1972

File
CSHB 480

Honorable William J. Moran
Chairman, House Judiciary Committee
Alaska State Legislature
Juneau, Alaska 99801

Bill
Dear Representative Moran:

Attached is a copy of a letter dated April 11, 1972 from Homer L. Burrell, Director of the Division of Oil and Gas, in which he comments on CSHB 480, which is before your Committee for consideration.

Work of the Oil and Gas Conservation Committee, which is in the Division of Oil and Gas, is highly technical. By necessity, the Committee frequently relies on information that is held confidential by law and, in some cases, on information that is furnished with the understanding that it will be held confidential.

Very truly yours,



Charles F. Herbert
Commissioner

Attachment

STATE
of ALASKA

MEMORANDUM

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

TO: Charles F. Herbert
Commissioner

DATE : April 11, 1972

FROM: Homer L. Burrell
Director

SUBJECT: CSHB No. 480

Although a member of the Alaska Bar Association Administrative Law Committee, I was not present when Committee approval of the captioned bill was voted.

From the standpoint of the Oil and Gas Conservation Committee, I object to: (a) being under the Administrative Procedure Act, as we have our own hearing and appeal procedures in AS 31 with which both the Administrative Procedure Act and the proposed bill conflict; and (b) the fact that the captioned bill requires all state agencies, regardless of their individual governing statutes, to use hearing officers on the staff of the Office of Administrative Adjudication, and opens up our confidential files to the hearing officers.

I therefore recommend:

(1) AS 44.62.330(a)(18) be repealed; and

(2) AS 44.62.353 and 354 (in the captioned bill) be amended to provide that hearing officers may be assigned only to those agencies and functions subject to the Administrative Procedure Act.

The specialized and technical nature of oil and gas conservation hearings is such that a hearing officer without substantial oil and gas experience would be a burden upon this agency.

DEPARTMENT OF
NATURAL RESOURCES

APR 12 1972

RECEIVED
UNEAU, ALASKA

Prepare bill for Moran

UNIFORM FOREIGN MONEY-JUDGMENTS RECOGNITION ACT

The Hague Conference on Private International Law has been requested by the Council of Europe to prepare a general convention on recognition and enforcement of foreign judgments. The six nations of the European Economic Community have started work on a convention of their own. The United Kingdom has concluded new treaties and the Commissioners on Uniformity of Legislation in Canada have decided to re-examine their own Uniform Act. A concerted drive is under way to secure greater uniformity in the law. From all of these efforts improvement may come to a field well known for its unsatisfactory condition.

In most states of the Union, the law on recognition of judgments from foreign countries is not codified. In a large number of civil law countries, grant of conclusive effect to money-judgments from foreign courts is made dependent upon reciprocity. Judgments rendered in the United States have in many instances been refused enforcement abroad because of the difficulty of proving existence of reciprocity to the satisfaction of the foreign court. Wide agreement exists in state law on the rules to govern recognition of such judgments. The uniform codification of the law greatly enhances the prospects of recognition for judgments from American courts.

Uniform Foreign Money-Judgments Recognition Act

(Be it enacted, etc.)

SECTION 1. [Definitions.] As used in this act: (1) "foreign state" means any governmental unit other than the United States, or any state, district, commonwealth, territory, insular possession thereof, or the Panama Canal Zone, the Trust Territory of the Pacific Islands, or the Ryukyu Islands; (2) "foreign judgment" means any judgment of a foreign state granting or denying recovery of a sum of money, other than a judgment for taxes, a fine or other penalty, or a judgment for support in matrimonial or family matters. SECTION 2. [Applicability.] This act applies to any foreign judgment that is final and conclusive and enforceable where rendered even though an appeal therefrom is pending or it is subject to appeal. SECTION 3. [Recognition and Enforcement.] Except as provided in Section 4, a foreign judgment meeting the requirements of Section 2 is conclusive between the parties to the extent that it grants or denies recovery of a sum of money. The foreign judgment is enforce-

HB-451 + HB-452

able in the same manner as the judgment of a sister state which is entitled to full faith and credit.

SECTION 4. [Grounds for Non-recognition.] (a) A foreign judgment is not conclusive if (1) the judgment was rendered under a system which does not provide impartial tribunals or procedures compatible with the requirements of due process of law; (2) the foreign court did not have personal jurisdiction over the defendant; or (3) the foreign court did not have jurisdiction over the subject matter. (b) A foreign judgment need not be recognized if (1) the defendant in the proceedings in the foreign court did not receive notice of the proceedings in sufficient time to enable him to defend; (2) the judgment was obtained by fraud; (3) the [cause of action] [claim for relief] on which the judgment is based is repugnant to the public policy of this state; (4) the judgment conflicts with another final and conclusive judgment; (5) the proceeding in the foreign court was contrary to an agreement between the parties under which the dispute in question was to be settled otherwise than by proceedings in that court; or (6) in the case of jurisdiction based only on personal service the foreign court was a seriously inconvenient forum for the trial of the action.

SECTION 5. [Personal Jurisdiction.] (a) The foreign judgment shall not be refused recognition for lack of personal jurisdiction if (1) the defendant was served personally in the foreign state; (2) the defendant voluntarily appeared in the proceedings, other than for the purpose of protecting property seized or threatened with seizure in the proceedings or of contesting the jurisdiction of the court over him; (3) the defendant prior to the commencement of the proceedings had agreed to submit to the jurisdiction of the foreign court with respect to the subject matter involved; (4) the defendant was domiciled in the foreign state when the proceedings were instituted, or, being a body corporate had its principal place of business, was incorporated, or had otherwise acquired corporate status, in the foreign state; (5) the defendant had a business office in the foreign state and the proceedings in the foreign court involved a [cause of action] [claim for relief] arising out of business done by the defendant through that office in the foreign state; or

20 (6) the defendant operated a motor vehicle or airplane in the
 21 foreign state and the proceedings involved a [cause of action]
 22 [claim for relief] arising out of such operation.
 23 (b) The courts of this state may recognize other bases of juris-
 24 diction.

1 SECTION 6. [Stay in Case of Appeal.] If the defendant satisfies
 2 the court either that an appeal is pending or that he is entitled and
 3 intends to appeal from the foreign judgment, the court may stay the
 4 proceedings until the appeal has been determined or until the expir-
 5 ation of a period of time sufficient to enable the defendant to prose-
 6 cute the appeal.

1 SECTION 7. [Saving Clause.] This act does not prevent the
 2 recognition of a foreign judgment in situations not covered by this act.

1 SECTION 8. [Uniformity of Interpretation.] This act shall be so
 2 construed as to effectuate its general purpose to make uniform the
 3 law of those states which enact it.

1 SECTION 9. [Short Title.] This act may be cited as the Uniform
 2 Foreign Money-Judgments Recognition Act.

1 SECTION 10. [Repeal.] [The following acts are repealed:
 2 (1) ;
 3 (2) ;
 4 (3) .]

1 SECTION 11. [Time of Taking Effect.] This act shall take effect
 2 []

UNIFORM INTERSTATE AND INTERNATIONAL PROCEDURE ACT

Civil litigation with interstate and international aspects is becoming an increasingly important element of judicial business. In many cases it is necessary to perform a procedural act, either with or without assistance from local officials, in a sister state or a foreign country. Conversely, domestic courts are being requested with greater frequency to render assistance to out-of-state tribunals and litigants. Unfortunately, existing law is frequently difficult to ascertain, inadequate, and ill-adjusted to conditions prevailing outside the forum state. The American Bar Association, recognizing the need for reform, recommended shortly after the second World War that the President establish a Commission to investigate, and suggest measures for the improvement of existing procedures. In 1952, the President approved this recommendation, and in 1958, the United States Congress enacted legislation to establish a Commission and Advisory Committee on International Rules of Judicial Procedure (Act of September 2, 1958, 72 Stat. 1743). This Commission and its Advisory Committee, in cooperation with the Columbia Law School Project on International Procedure, has drafted several amendments to the Federal Rules of Civil and Criminal Procedure and Titles 18, 22 and 28 of the United States Code that are presently being considered for adoption.

The Uniform Interstate and International Procedure Act presents for adoption by the states a comprehensive code for use in state litigation with interstate or international incidence. It is designed to clarify, consolidate, and improve existing law, and supplants the Uniform Foreign Depositions Act, the Uniform Judicial Notice of Foreign Law Act, and the Uniform Proof of Statutes Act.

Article I, a modified version of the uniform Extra-Territorial Process Act, which was before the Conference at its 1961 meeting, specifies authorized bases of personal jurisdiction over persons and entities that are not within the state at the time the action is commenced. Article II provides several alternative methods by which service may be effected outside the state. Article III is designed to facilitate the taking of depositions to obtain testimony, documents, and other tangible evidence outside the state for use in domestic litigation. Both Article II and Article III contain provisions for rendering assistance to tribunals and litigants outside the enacting state. Article IV resolves problems attendant upon the determination of the law of a governmental unit outside the forum state. Article V concerns proof of official records kept outside the state.

Uniform Interstate and International Procedure Act

(Be it enacted, etc.)

Article I. Bases of Personal Jurisdiction Over Persons Outside This State

REVISED UNIFORM ENFORCEMENT OF FOREIGN JUDGMENTS ACT

The mobility, today, of both persons and property is such that existing procedure for the enforcement of judgments in those cases where the judgment debtor has removed himself and his property from the state in which the judgment was rendered, is inadequate. By this act, procedure is made available under which the judgment creditor can effectively obtain relief and at the same time adequate protection is given the judgment debtor to present any defense that can now be interposed to an action on such judgment. The revision simplifies procedures by providing for a shorter registration or filing procedure rather than the summary judgment procedure prescribed by the original act.

Revised Uniform Enforcement of Foreign Judgments Act

09.30.160

1 -Section 1. [Definition.] In this act "foreign judgment" means
2 any judgment, decree, or order of a court of the United States or of
3 any other court which is entitled to full faith and credit in this state.

Section 2. [Filing and Status of Foreign Judgments.]

1 A copy of
2 any foreign judgment authenticated in accordance with the act of
3 Congress or the ~~statutes~~ of this state may be filed in the office of
4 the clerk of any [District Court of any city or county] of this state.
5 The clerk shall treat the foreign judgment in the same manner as a
6 judgment of the [District Court of any city or county] of this state.
7 A judgment so filed has the same effect and is subject to the same
8 procedures, defenses, and proceedings for reopening, vacating, or
9 staying as a judgment of a [District Court of any city or county] of
10 this state and may be enforced or satisfied in like manner.

Section 3. [Notice of Filing.]

1 (a) At the time of the filing of the foreign judgment, the judgment
2 creditor or his lawyer shall make and file with the Clerk of Court
3 an affidavit setting forth the name and last known post office address
4 of the judgment debtor, and the judgment creditor.

5 (b) Promptly upon the filing of the foreign judgment and the affi-
6 davit, the clerk shall mail notice of the filing of the foreign judgment
7 to the judgment debtor at the address given and shall make a note of
8 the mailing in the docket. The notice shall include the name and
9 post office address of the judgment debtor and the judgment creditor
10 of this state. In addition, the judgment creditor
11 may mail a copy of the filing of the judgment to the judgment deb-
12 tor and any filing proof of mailing with the clerk. Each of the above
13 filings by the clerk shall be made at the earliest practicable
14 filing proof of mailing by the clerk shall be made as soon as possible.

15 [(c) Any execution or other process for enforcement of a foreign
16 judgment filed hereunder shall be returned [20] day
17 after the date of filing of the judgment.

09.30.110

Section 4. [Stay.]

1 (a) If the judgment debtor shows the [District Court of any city
2 or county] that an appeal from the foreign judgment is pending or
3 will be taken, or that a stay of execution has been granted, the court
4 shall stay enforcement of the foreign judgment until the appeal is
5 concluded, the time for appeal expires, or the stay of execution ex-
6 pires or is vacated, upon proof that the judgment debtor has furnished
7 the security for the satisfaction of the judgment required by the
8 state in which it was rendered.

9 (b) If the judgment debtor shows the [District Court of any city
10 or county] any ground upon which enforcement of a judgment of any
11 [District Court of any city or county] of this state would be stayed,
12 the court shall stay enforcement of the foreign judgment for an ap-
13 propriate period, upon requiring the same security for satisfaction
14 of the judgment which is required in this state.

09.30.120

1 [Section 5. [Fees.] Any person filing a foreign judgment shall
2 pay to the Clerk of Court [~~one~~ dollars. Fees for docketing,
3 transcription or other enforcement proceedings shall be as provided
4 for judgments of the [District Court of any city or county] of this
5 state.]

09.30.130

1 -Section 6. [Optional Procedure.] The right of a judgment creditor
2 to bring an action to enforce his judgment instead of proceeding
3 under this act remains unimpaired.

09.30.140

1 -Section 7. [Uniformity of Interpretation.] This act shall be so
2 interpreted and construed as to effectuate its general purpose to
3 make uniform the law of those states which enact it.

09.30.150

1 Section 8. [Short Title.] This act may be cited as the Uniform
2 Enforcement of Foreign Judgments Act.

1 Section 9. [Repeal.] The following acts and parts of acts are
2 repealed:

- 3 (1) ;
- 4 (2) ;
- 5 (3) ;

1 Section 10. [Taking Effect.] This act takes effect
2 [] day.

alter 2.
delegation

the fee
prescribed
by law for
the filing
of an
action.

REPORT ON HOUSE BILL NO. 480 — Jila

BY THE
ADMINISTRATIVE LAW COMMITTEE,
ALASKA BAR ASSOCIATION

Sec. 44.62.351

The Committee has contacted the Alaska Court System, and has been informed by Chief Justice Boney that they have not had an opportunity to review the Bill. However, your subcommittee chairman has talked to one of the Associate Justices of the Supreme Court, and he informs me that he would oppose having the Office of Administrative Adjudication attached to the court system, although he did make it clear that the courts do not oppose, and in fact, favor, the concept of independent hearing examiners. The courts' main concern is that by adding more people to the system, its staff manpower and budget would be further diluted, since they are already underfunded, and in addition, since a hearing examiner decision might ultimately be appealed to the courts, there would be the question of a possible conflict of interest.

The Committee would not object to the hearing examiner being placed under, for example, the Department of Administration, provided that department's authority were limited to budget authority only. The Committee believes that the Bill should stress the independence of the hearing examiners.

Sec. 44.62.352

We would recommend adding a subsection (c) providing for a term of six years and allowing removal only for good cause.

Sec. 44.62.353(b)

We would recommend that this subsection be amended by adding the words "who is otherwise qualified by reason of background and experience, and meets the qualifications established by the Department of Administration."

COMMENT: This change is to correlate this section with Sec. 352(b) which provides that the presiding officer must have the same qualifications as a hearing officer, and it is thought initially that the Department of Administration (or the Court System) should set these qualifications.

Sec. 44.62.353(c)

We would re-write the first sentence of this subsection to read as follows: "The presiding officer shall assign a hearing officer for any administrative adjudicatory proceeding arising under state law."

COMMENT: This makes it clear that the Bill will apply to all agencies. While there is no objection by the Committee to having commissions or agencies, such as Public Utilities Commission or Alaska Transportation Commission, sit on cases, the Committee does believe that a hearing officer should sit with the agency. One Committee member felt that in appropriate cases, where there was an otherwise qualified lawyer member of the agency, he could be appointed as hearing examiner.

Sec. 44.62.353(d)

We would add a subsection (d) to provide that the Office of Administrative Adjudication may contract for a hearing examiner where their staff does not otherwise have a qualified person available.

COMMENT: This suggestion was made by some members of the House Local Affairs Committee, and the Committee believes it is a sound one.

Sec. 44.62.354

Add a sentence at the end that the office will compile and publish significant Court and Administrative decisions.

COMMENT: We think the Office of Administrative Adjudication should be required to publish significant administrative law decisions, just as the Court publishes its opinions. The Commission also might wish to consider making the publication a monthly or bi-monthly affair, in which proposed regulations could also be published. This would be the equivalent of the Federal Register as used by the federal government.

Sec. 44.62.410

We would change the first sentence to read: "The agency shall consult the office and all parties in interest, and, subject to the availability of the office's staff, shall determine the time and place of hearing."

COMMENT: Many hearings have a statewide interest and effect--i.e., utility, oil and gas, and transportation matters--and the agency should try to set it for the convenience of all parties.

Sec. 44.62.500(c)

The second sentence of this subsection should have the following language added: "and a final decision, including findings of fact and conclusions of law, separately stated. Findings of fact, if set forth in statutory language, shall be accompanied by a concise and explicit statement of the underlying facts supporting the findings."

COMMENT: This language is taken from Sec. 12 of the Model State Administrative Procedures Act. If this amendment is adopted it will prevent agencies from arbitrarily reversing a hearing examiner decision by reference to statutory language or formulas. Further, this language, we think, is indicative of the present trend of Administrative Law requirements for making explicit findings of fact and conclusions of law. We do not think that this will infringe upon the permanent authority of the agencies to make the final decision but rather, it requires them to have good reason to reverse a hearing examiner decision.

Sec. 44.62.515 (a)

Add: "or the submission of briefs or memoranda, whichever occurs later". We would also recommend a provision similar to that required of judges--i.e., that a hearing examiner submit an affidavit that he has no cases pending beyond the 90-day limit provided above or forfeit his pay

Sec. 44.62.515(b)

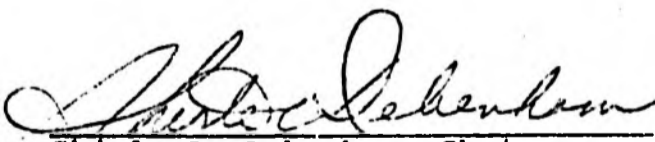
Strike the word "rendering" and substitute "receipt".

COMMENT: The amendment to subsection (a), we believe, is a realistic one, since in the more complex cases it often will take 60 to 70 days just to submit briefs. A hearing examiner should have the full 90 days to make the decision. Subsection (b) makes it clear that the agency or commission would have 30 days from the receipt of the decision. Delay in the mails is often encountered and the agency should have the full 30 days to render its decision.

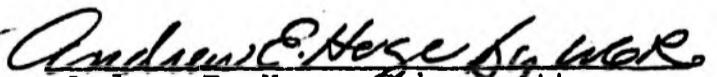
We would add a Sec. 11 to the Bill, making it clear that the sections referred to in House Bill No. 480 apply to all agencies of the state and not just the agencies referred to in AS 44.62.330.

We wish to make it clear that we would not recommend a general revision of the Administrative Procedure Act, §44.62.330, et seq., to make it applicable to all agencies. Certain state agencies have adopted their own rules of practice pursuant to law, and at this point in time we do not think any effort should be made to generalize the Administrative Procedure Act provisions to all agencies. What we do wish to make clear, however, is that the provisions recommended for House Bill No. 480 should be applicable to all agencies.

The Administrative Law Committee has long favored independent hearing examiners. However, more importantly, we favor the concept that there will be adequate hearing officer personnel available to all agencies of the state. The present impossible situation at the Alaska Transportation Commission and the lack of effective hearing procedures for many of the regulatory boards, such as medical examiners, dental examiners, etc., is clearly not in the public interest.



Shirle A. Debenham, Chairman
Administrative Law Committee



Andrew E. Hoge, Subcommittee
Chairman
Administrative Law Committee

A NEW REGULATORY FRAMEWORK

Report On Selected Independent Regulatory Agencies



The President's
Advisory Council On
Executive Organization

January 1971

Findings and Recommendations

Major and fundamental change pervades each of the areas of economic enterprise under regulation by the independent regulatory commissions.

- In transportation, increasing interaction between the various modes reflects a persistent striving for greater efficiency in the movement of goods and people;
- In trade, new and probably enduring levels of public and producer attention are being given to the quality of goods and services, and to the operation of the marketplace;
- In securities, even as the structure of the industry itself and the relationship between Government and industry are experiencing major changes, a well-established trend toward institutional investment and new methods of financing are significantly altering the characteristics of securities trading;
- In power, where industry structure is also undergoing change, supplies of electrical energy and natural gas have not consistently kept pace with increasing demands in certain areas, and new technologies have yet to take up the slack;
- In communications, burgeoning technology has created new avenues for service and new products which together complicate the task of regulation and blur distinctions between the various forms of communications.

The independent regulatory commissions play a critical role in balancing the changing demands of the Nation for the goods and services of regulated industries and the related need for financially sound and effectively managed industries in the regulated sectors of our economy. Unfortunately, obsolete organizational forms limit the effectiveness of these commissions in responding to economic, technological, structural, and social change. Inappropriate regulatory structures and cumbersome procedures impose burdens that impede good public service, sound financial and operational planning, and adjustment to changes in growing industries—contrary to the purposes of regulation.

Our proposals for change in the organizational forms of several independent regulatory commissions are directed at improving agency effectiveness, while assuring fairness to those involved in or affected by the regulatory process.

FINDINGS

The regulatory commissions are not sufficiently accountable for their actions to either the Congress or the President because of the degree of their independence and remoteness in practice from those constitutional branches of government. Regulatory activities, therefore, are not adequately supported and are not effectively coordinated with national policy goals.

Inherent deficiencies in the commission form of organization prevent the commissions from responding effectively to changes in industry structure, technology, economic trends, and public needs.

Deficiencies in the performance of the regulatory commissions are partly due to the difficulty of attracting highly qualified commissioners and retaining executive staff. Even able administrators have difficulty in serving as coequals on collegial commissions.

- While there are notable exceptions, it is difficult to attract to regulatory positions men of skill in administration and breadth of perspective largely because of the procedures and traditions associated with appointment to the regulatory commissions.
- Given these traditions and the shared responsibility of the collegial form, it is not likely that commission positions will generate greater interest in the future.

Certain judicial activities of the commissions conflict with their policy-making responsibilities and generate an organizational environment inimical to regulatory efficiency and constructive response to industry and the public.

- Many commissions engage excessively in case-by-case adjudication as a basis for policy formulation rather than using less formal procedures such as exchanges of written or oral information, informal regulatory guidance, or rulemaking.
- The judicial cast of agency review proceedings places too great an emphasis on legal perspectives to the detriment of economic, financial, technical, and social perspectives. One result is a high level of legal skill among agency professionals and commissioners, but generally insufficient capability in other disciplines.
- The judicial cast of agency review proceedings delays final administrative determinations and invites dilatory appeals.
- Overjudicialization encumbers the time and energies of commissioners and staff, causes undue case backlogs, imposes high costs upon litigants, prevents anticipatory action through rulemaking, deters informal settlements, and precludes coordination of agency policy and priorities with those of the executive branch.

Certain functional responsibilities are inappropriately distributed among the various commissions.

- Responsibility for regulation of transportation is distributed among the ICC, CAB, and FMC, impeding formulation of broader regulatory policy covering the several transportation modes and coordination with the Department of Transportation, and thus forestalling consistency in national transportation policy.
- Responsibility for promotion of transportation, vested in some regulatory commissions, conflicts with the regulatory activity of those agencies.
- Combination of antitrust enforcement and consumer protection in the FTC deprives that agency of a central purpose, fostering an uncertainty of emphasis as between its functions, inordinate delay, and preoccupation with routine matters.
- Regulation of public utility holding companies by the SEC is no longer best performed by that agency. Regulatory expertise regarding public utility holding companies rests with the FPC.

RECOMMENDATIONS

To assure coordination of regulatory matters with national policy goals, to improve the management efficiency of regulatory functions, to improve accountability to the Congress and the executive branch, and to increase the probability of superior leadership for regulatory activities, the transportation, power, securities, and consumer protection regulatory functions should be administered by single administrators, appointed by

the President. These functions should be performed by agencies respectively designated: Transportation Regulatory Agency, Federal Power Agency, Securities and Exchange Agency, and Federal Trade Practices Agency.

- The authority and responsibility attending the single administrator form should enable the agencies to attract and retain the most highly qualified administrators and executive staffs.
- Unambiguous placement of authority for agency policy and operations in a single administrator should increase accountability to both the Congress and the President.
- Agency work should be expedited by utilizing more effective administrative techniques made possible by one-man management of agency activities.

The communications regulatory function and the antitrust enforcement function should, as now, be carried out by multimember bodies for reasons supervening the advantages of a single administrator. The FCC should be reduced in size from seven to five members, to serve 5-year terms.

To prevent the overjudicialization of agency procedures and attitudes and to assure comprehensive and anticipatory policymaking, internal agency review of proceedings should be limited in time and focused primarily on the consistency of the decision with agency policy. Appeals from final agency decisions should be heard by an Administrative Court of the United States.

- A 30-day period should be allowed after a hearing examiner's decision for review by the single administrator. The administrator should have the power to modify or remand an examiner's decisions. The limited time and scope of policy review by agency administrators should help make initial decisions of agency examiners, in many cases, final determinations of the agency.
- The Administrative Court should review appeals by an aggrieved party from final agency determinations of the transportation, securities and power agencies. Decisions of the antitrust, trade practices, and communications agencies would be reviewed in the Federal courts as they are today.
- The court should consist of as many as 15 judges, appointed by the President and confirmed by the Senate for terms sufficiently long as to attract men of quality. We suggest 15-year staggered terms, with judges sitting in three-man panels for each case reviewed by the court.

Certain functional responsibilities of the agencies should be realigned.

- **To reflect the increasing interdependence of the structure, economics, and technology of the transportation modes, regulatory responsibilities of the ICC, CAB, and the FMC should be combined within a new Transportation Regulatory Agency.**
- **To correct the conflict inherent in performing regulatory and promotional functions in the same agency, the promotional subsidy-granting activities of the CAB should be transferred to the Department of Transportation.**
- **To assure that each of its missions is more effectively performed, the FTC's consumer protection responsibilities should be vested in a new Federal Trade Practices Agency and its antitrust enforcement responsibilities should be vested in a new Federal Antitrust Board. The Board should consist of a chairman and two economist members, each appointed by the President with the consent of the Senate.**
- **To provide an organizational placement which better reflects current realities, the regulatory responsibilities of the SEC under the Public Utility Holding Company Act should be transferred to the Federal Power Agency.**

DISSENTING STATEMENT OF FREDERICK R. KAPPEL

The Council made its recommendations to the President in a brief and to the point preliminary report on July 10, 1970. It included a dissent on my part consistent with the content of that report.

This more complete report contains the same specific recommendations and my dissent concerning them is unchanged and quoted herein.

This report elaborates considerably on the earlier report in its reasoning and in its references, quotes, and documentation. It does this by the inclusion of views and writings from numerous sources. These include legal, academic, government committee views, and writings from individuals involved as regulators past and present. There were over 200 interviews made by staff as noted in the report.

In connection with the references, interviews and other material researched I must point out that there are almost no references or views from the regulated entities. To this extent I believe any one who accepts this report on its face value must recognize that it is almost totally lacking in this very important respect. If constructive action results from this report and the efforts behind it (and I sincerely hope that it will), it will require, in my opinion, that this added point of view be sought and considered in a major way. Any useful progress will require it.

Since this report is hopefully the beginning of an effort to bring to bear all qualified viewpoints toward better regulatory results, it must be the aim that such regulation meet the test of not only good, safe, ample

goods and services fairly priced to the public, but the organizational structure and the level of competence of the regulators themselves must be such that they will soundly recognize the problems of the regulated entities and work with the realization that the producers and businesses involved must be allowed freedom to manage and have ample leeway in operations and rate of returns to produce the high quality and ample service results that are vital to the whole country. This is a serious deficiency in past performance.

The ensuing developments should include careful examination of the recommendations of this Council, agency by agency, before adopting these structural recommendations as I note in the following quoted dissent previously referred to:

"I do not share the judgments of my associates in recommending a single administrator and a separate administrative court. These proposals reflect their belief that they will bring about a greater capability of administration and improved decision processes. There is no certainty that these proposals will lead to more effective administration. The economic and technological aspects of transportation and power regulation, for example, are more complex than other nonservice industries studied. The problems raised in the regulation of these industries cannot be resolved entirely in the atmosphere of either a hearing officer or an administrative court. I fear that this will be the result of the changes proposed by my colleagues.

"I agree, however, along with my colleagues that we should emphasize the need to encourage men of exceptional ability to seek and accept appointments to these vital administrative posts as a prime objective of our recommendations. But, I would suggest that more careful attention to the selection of commissioners and other key personnel is as likely to improve the administrative process as is the single administrator and the administrative court.

"In my opinion, it would be more appropriate to implement these proposals in one administrative agency. The FTC would be my selection. These innovations may then be studied carefully before any further attempt is made to implement them elsewhere."

Overview

The independent regulatory commissions, now mature institutions of the Federal Government, are characterized by rigidity in their process and in their patterns of relationship with Congress and the executive branch, the regulated industries, and the public. They lack the adaptive force which might regenerate or redefine their roles in helping shape the American economy. Both rigidity and lack of adaptability impede regulatory effectiveness at the very time when persistent trends and new directions in the economy demand flexibility and imagination to carry out regulatory objectives and to formulate action in the interest of the public, including the regulated segments of the private sector.

REGULATION AND GOVERNMENTAL STRUCTURE

The ICC, CAB, FMC, FTC, SEC, FPC, and FCC, established by Congress in the years since 1887, have long been considered an anomaly in government structure.¹ They are institutions housed in the executive branch, carrying out legislative functions, and behaving like courts. In the past quarter century, the growth of the regulated industries and the pace of the national economy have largely outdistanced the ability of the commissions to cope constructively with regulatory problems.

To have practical meaning, the commissions' charge to regulate in the interest of the public must include regard for economic, technological, and social developments, as well as the capability of the regulated industries to provide good public service.

Inadequacies in regulatory structure have adversely affected the implementation of Congressional mandates, the management of executive

branch functions, the interests of the public generally, and the ability of the regulated industries to operate their businesses profitably or to plan future actions with reasonable assurance of what regulatory policy will be.

The history of the regulatory commissions reflects an attempt to respond practically to national needs with institutions outside the three constitutional branches of government. Congress initially undertook to perform some regulatory responsibilities, but later conferred these responsibilities on independent commissions, a form that it believed would provide fairness and expertise, without delay or partisan influence. The commissions, however, soon became part of a highly specialized, independent "fourth branch" of the Federal Government. Today, they are not sufficiently accountable to either Congress or the executive branch. Perhaps because of this, they have become less effective in balancing the needs of the public with those of the industries they regulate consistent with Congressional intent and executive policy.

REGULATORY ACCOUNTABILITY

More than 30 years ago, the President's Committee on Administrative Management highlighted the lack of accountability of independent regulatory commissions:

They constitute a headless "fourth branch" of the Government, a haphazard deposit of irresponsible agencies and uncoordinated powers * * *. The Congress has found no effective way of supervising them, they cannot be controlled by the President, and they are answerable to the courts only in respect to the legality of their activities.²

The point has been made many times since, but the scope of the problem has changed little, if at all, over the years. The independent commissions persist more from inertia than from an analysis of how regulatory bodies should properly function within the context of a comprehensive political and economic system.

Congress has conceived of these commissions as independent of executive branch control, but in fact the commissions are almost as independent of Congress itself. Apart from appropriations approval, periodic program review, and the intermittent interest of one or several of its members, Congress does not exercise the degree of oversight with respect to regulatory commissions that it does for executive departments and other agencies of the executive branch. Congress has sought to preserve the independence of the regulatory commissions, even as their activities increasingly affect the implementation of national policy. The executive branch, responsible for carrying out national policy, has been reluctant to support reforms needed to integrate regulatory activities with executive programs

because the President does not have sufficient responsibility for commission direction.

Yet congressional and executive attention to regulatory needs is required more today than ever in the past because of the increasing interdependence of national economic policies which emerge from budget and fiscal action, economic regulation, and industry promotion by government. Proponents of the commission form tend to ignore that interdependence.³ In doing so they perpetuate processes and relationships which may frustrate national policy and sound economic growth.

Independence, and the resulting absence of regulatory accountability, has transferred to a generally shielded arena those questions which should be settled in a more open forum. The public—the intended beneficiary of regulation—has found it difficult to understand the issues and lacks a practical mechanism through which to communicate its views.

All this, together with significant impediments to regulatory performance inherent in the commission form itself, has led the commissions to become less responsive to economic and social trends and changes in industry structure.

Most studies and commentary relating to reform of the regulatory commissions over the years emphasize their separateness from an integrated governmental structure.⁴ These studies, and subsequent attempts to implement proposals stemming from them, have concentrated on reordering personnel, procedures, or functions to improve commission performance. Such efforts are commendable, but internal revision and redefinition are not enough. The regulatory apparatus requires a fundamental restructuring to enhance overall effectiveness and responsibility.

Accountability to Congress

Congress' powers under article II of the Constitution to regulate interstate and foreign commerce is the primary basis for regulatory controls. Through legislation, Congress has vested in regulatory commissions the powers necessary to carry out broad statutory mandates. But congressional statements of policy are understandably general, leaving to the commissions the task of making specific policy to implement those objectives. One result is that the commissions, in the course of time, have developed policies affecting the economy without sufficient guidance or check by Congress.⁵ This condition is aggravated in the view of some commentators by the commission form of organization which makes it hard to pinpoint those within the regulatory agencies responsible for setting policy.⁶

With greater coordination between the agencies and the executive branch and an organization structured to focus responsibility, Congress

would be better able to oversee agency policy and, in concert with the President, improve regulation.

Accountability to the Executive Branch

The President is responsible under article I of the Constitution to "take care that the laws be faithfully executed." That duty extends to the activities of the regulatory agencies to assure that the laws enacted by Congress are carried out effectively and fairly. The American public—to whom the President is directly answerable—looks to the President for leadership in pursuing national policy goals, including those affected by the regulatory process. The success of many Congressional and executive programs ultimately depends on a coordinated regulatory response.

Several recent Presidents have recommended changes in the regulatory process.⁷ Although many proposed reforms have fallen short of enactment, these Presidents presumably felt that such recommendations were part of their responsibility to oversee faithful execution of the laws. Congress has repeatedly recognized the President's role in the regulatory scheme by authorizing him to make organizational changes in all agencies of the executive branch without distinction between executive agencies within the Departments and independent regulatory commissions.⁸

If regulation is to be more responsive to the public interest and coordinated with national programs, it must first be brought within the ambit of elective government, with accountability to those officials to whom the public and the regulated industries alike look for fair and constructive application of national policy.

REGULATION BY INDEPENDENT COMMISSIONS

Historically, at least four premises have been offered to support regulation by independent commission.

The first is that Congress delegated unique legislative authority to carry out certain critical regulatory functions and created a unique form of organization, the independent commission, for that purpose. Yet, most executive departments also possess delegated regulatory powers. For both, Congress enacts skeletal legislation setting forth principles, mandates, and limitations within which the traditional executive departments and agencies develop rules, standards, and regulations to give substance to a legislative program.⁹ It is difficult today to discern the distinction which justifies wide differences in the structure and processes of the Federal Trade Commission on the one hand and the Food and Drug Administration or Federal Aviation Administration (both headed by single administrators) on the other. The most recent agency to be vested with

regulatory functions, the Environmental Protection Agency,¹⁰ incorporates the concept of unitary leadership in place of the commission form.

Second, it is argued that to deal with complex and technical regulatory problems, special expertise is required of decisionmakers and that the commission form alone best develops that expertise. The commissions have not, however, demonstrated consistent mastery of the subjects within their jurisdictions.¹¹ Nor does their technical capability visibly surpass that of regulatory counterparts within executive departments.

Third, it is urged that the application of regulatory statutes, rules, and regulations requires a bipartisan, multimember body that can act without regard to the partisan considerations which affect Congress or the executive branch. Political pressure coming from Congress or the executive branch unquestionably impinges on the impartiality of commission proceedings. But the procedural requirements of adequate notice and fair hearing, as well as the availability of judicial review, help to assure, as much as anything, a just result in particular proceedings. In the opinion of several observers of the regulatory process, the fairness of regulatory decisions results more from the mechanics of internal decisionmaking and breadth of perspective of the regulators than from the fact of bipartisan representation on the commissions.¹²

A fourth premise often asserted in support of the commission form is that commissions can better serve the public interest in regulatory matters because their independence makes them immune from control by the industries they regulate. The assumption which lies behind these assertions is that the interest of the industries and of the public are in fundamental conflict. But today, those interests are closely related, for the success of an industry will have a marked impact on the extent, quality, and price of available goods and services. Nevertheless, undue or unbalanced influence upon the commissions by the industries regulated is undesirable. While the adversary nature of commission proceedings decreases the likelihood of such influence, when it occurs, it is an outgrowth of the dependence of the regulator on the regulated—a relationship which may occur regardless of form.¹³ To the extent the form of organization is responsible at all, the very anonymity of the commission structure which heightens unaccountability tends to prevent public exposure of relationships which may be improper.

The foregoing does not set forth all the premises underlying the commission form for use in economic regulation.¹⁴ Other arguments for the establishment of the commissions range from the discomfort of many courts with complex economic and technological problems to the need for expeditious procedures in regulating commerce.

At the very least, these reasons for regulation by independent commis-

sion, if ever valid, are today of questionable validity. In practice, the commission form has proven most of them to be invalid.

REGULATION AND INDUSTRY EXPANSION

The form of the regulatory commissions, compatible with another era, prevents them from responding effectively to economic trends and changes in technology, industry structure, and public needs.

The Interstate Commerce Commission, first among the Federal regulatory commissions, was established in 1887 to achieve rate stability, prevent discrimination in favor of large shippers and certain geographical areas, and protect farmers from undue charges by railroads. Today, some of the surface transportation industries suffer major economic hardship partly caused by the regulatory processes themselves.

Given the likely impact of such developments as containerization, jet freight carriage, and the interstate highway system, as well as the needs of a growing and concentrated population, modes of transportation within ICC jurisdiction must be viewed together with other modes as an integral part of a unified transportation network. Other carriers not regulated by the ICC affect and are affected by ICC decisions. Urban mass transit is a concern of the ICC, CAB, and the Department of Transportation. The ICC and the CAB exercise jurisdiction over inland segments of overseas shipments while the FMC and CAB exercise jurisdiction over the ocean segment of such shipments, even though containerization has made possible a continuous flow of commerce from the interior of the United States to the interior of other continents. Fragmented regulation of the transportation industry is inconsistent with efforts to develop a coordinated transportation system. It frustrates the development of management and financial capability in the industries involved, and impedes the rate at which new technology can be utilized.

The Federal Trade Commission was created in 1914 to prevent unfair methods of competition by businesses in interstate commerce. Originally intended to augment antitrust enforcement, the FTC has become a repository for many bits and pieces of legislation that did not seem to fit neatly into any other agency of government. Consequently, FTC jurisdiction now ranges from the complexities of large corporate mergers to the comparatively simple task of accurate labeling of fabrics and furs.

The Federal Power Commission originated in 1920 with the relatively tidy mandate of licensing construction and operation of hydroelectric power plants on bodies of water within the jurisdiction of the Federal Government. It now also regulates transmission and wholesale marketing of electric energy in interstate commerce, including rates, accounting procedures, mergers, consolidations, interconnections, and

coordination of interstate electric energy systems. The FPC similarly regulates transmission and wholesale marketing of natural gas in interstate commerce. An increasingly complex interstate energy system affecting the well-being of every citizen makes these regulatory tasks monumental.

The Federal Communications Commission was set up in 1934 to bring order to radio spectrum allocation and to regulate the existing telephone systems as a monopoly service under legislation that authorized exclusive operation in the public interest. To these has been added regulatory responsibility for standard television broadcasting, cable and subscription television, satellite communications, and computer utilities.

The Securities and Exchange Commission, also a product of regulatory legislation in the 1930's, was established to promote public confidence, through government oversight, in the issuance and trading of securities. But today, the SEC must deal with related problems of public ownership of brokerage firms, the operations of securities exchanges, the effects of computerization and new financing techniques, and the advent of major institutional investors.

The Civil Aeronautics Board, created in 1938, dramatically illustrates the way in which technology has challenged the ability of regulatory commissions to respond to change. The CAB initially concentrated on safety regulations and awards of mail routes. Today, the Board oversees an industry experiencing recurring economic problems and faced with crowded airways, jumbo jets, inadequate terminal facilities, and problems yet to be generated by the SST. These factors materially affect the ability of the industry to provide good service and at the same time impinge on the economy, our physical environment, and transportation modes not regulated by the CAB.

The Federal Maritime Commission, which in 1961 replaced the Federal Maritime Board established under the Shipping Act of 1916, today is involved in tasks of international importance. The FMC must deal with the effects of containerization and other technological innovations in ocean shipping. The Commission must also resolve problems relating to joint through rates and single bills of lading, its impact on modes (including foreign carriers) it does not regulate, and pricing through international shipping conferences.

The end result of this period of unparalleled technological change, industry expansion, economic growth, and environmental and social concern is that new responsibilities and workloads generated by routine matters have outdistanced the commissions' ability to respond. As the volume of proceedings has increased with each new responsibility, internal commission structure and process has become more complex. While some attempts have been made to remedy these problems through inter-

nal reforms, little thought has been given to restructuring the entire regulatory apparatus.

But it is not the mounting ineffectiveness of the regulatory framework alone which compels change. The world is in an era of transition that challenges government and private sectors alike to deal constructively and cooperatively with the economic issues, current, prospective, and unforeseen. The independent regulatory commission's inflexible institutions attuned to a simpler day, cannot be expected to deal constructively with economic issues yet to be generated if they are unable to deal with current ones. More than ever, a new framework is needed for improved regulation and as a necessary first step to reconsidering the statutes which authorize economic regulation.

A NEW CONCEPTUAL FRAMEWORK

The failure of regulatory commissions to respond to current demands and the unlikelihood of their responding to new ones is principally attributable to collegial organization, the judicial cast of agency activities, and the misalignment of certain functional responsibilities.

The collegial form is today inappropriate for regulating highly complex, everchanging areas of the economy. What is needed is a regulatory structure which is more adaptable to changing conditions and better able than a collegial body to articulate policy. Plural-headed administration is usually characterized by shared powers, shared responsibility, and, for that reason, shared indecision and unaccountability.

In addition, overjudicialization, resulting from full commission review of initial agency decisions as a matter of course, has upset commission priorities and obscured the formulation of comprehensive, timely, and anticipatory agency policy. Moreover, the admixture of certain judicial functions with policymaking and prosecutory responsibilities has created a condition of apparent bias in certain proceedings, subjecting agency determinations to criticism on that ground and generally undermining confidence in the regulatory process.

Finally, certain regulatory activities are improperly divided among, or unwisely combined in existing commissions.

Agency Administration

We have considered several alternatives and have concluded that the best approach to solving the problems created by the commission form is to replace commissions—for transportation, power, securities, and trade practices regulation—with single administrators. These officials should be appointed by the President, upon the advice and consent of the Senate, to serve at the pleasure of the President.

agencies, where these vital requirements for program effectiveness are now often weak. This form of organization would also strengthen program coordination where two or more agencies need to work together to achieve a common goal.

Specifically, as described in detail in chapter 1, the single administrator would:

- Enable an agency to attract and retain highly qualified executives and staff because of better-defined, singular authority and responsibility;
- Encourage formulation of policy through informal procedures and rulemaking rather than case-by-case adjudication;
- Foster improved policy coordination among the agencies and with executive departments;
- Facilitate more immediate response to the needs of the public and to structural, economic, and technological changes in the regulated industries; and
- Promote more efficient allocations of agency resources by encouraging the use of modern management methods, including greater delegation of authority and more direct staff accountability.

Unitary leadership will not solve all regulatory problems. An agency so led may flounder for lack of the right kind of leadership or suffer from misguided efforts. But fault for that lies in the quality of the appointment not the form of organization. In such a case, responsibility lies with the President who has power to make the necessary change.

We suggest retention of plural leadership in the communications and antitrust areas because of overriding considerations which in our view supervene the benefits of the single administrator form. These considerations are discussed in chapters 4 and 7.

Review of Agency Decisions

The regulatory commissions have tended over the years to overjudicialize agency process by adopting a case-by-case approach. Excessive judicialization has fostered the development of ad hoc policies often limited to the particular fact situation at hand and therefore without general applicability or future effect.

Such judicial preoccupation, seen most readily in the course of systematic full commission review of decisions by agency hearing examiners, generally has precluded early, comprehensive statements of policy through rulemaking proceedings and other informal policymaking procedures. It has prevented the application of current agency policy by examiners while implicitly encouraging appeals to the full commission for a de

perspectives of staff and commissioners. The judicial attitudes and procedures of the commission have unduly prolonged proceedings and nurtured high case backlogs leading to ineffective uses of agency resources.

To rectify this situation, we propose that, instead of reviewing each initial decision as a matter of course, the single administrator of the restructured transportation, securities, and power regulatory agencies, and the new trade practices agency, review selected cases primarily for consistency with agency policy. Action by the administrator to overturn, modify, or remand an examiner's decision should be taken within 30 days and should set forth the reasons underlying such action.

Final agency action would be subject to review in the Federal courts. Whereas judicial review is presently exercised by the U.S. Courts of Appeals, we propose that, except for trade practice proceedings, review be transferred to a new Administrative Court of the United States. That court would be expert as to both the substantive issues involved in transportation, securities, and power legislation and the procedural intricacies of the Administrative Procedure Act which governs agency and review process. Moreover, the court's familiarity with problems of regulatory administration and the need for expedited procedures can be expected to aid in displacing the court-like posture of the agencies while maintaining regulatory fairness. We anticipate that removing judicial review of agency process from the Courts of Appeals will reduce somewhat the load on those courts and eliminate much of the agency preoccupation with judicial procedures which derives from review by common law courts.

The Administrative Court should consist of as many as 15 judges, appointed by the President, upon the advice and consent of the Senate, to serve staggered terms. We suggest terms up to 15 years. Appointments should be made initially on a bipartisan basis, with no more than a bare majority from one political party. Subsequent appointments or reappointments, just as those to other Federal courts, should be made without regard to political affiliation. The length of judicial terms should be long enough to insure continuity of expertise and at the same time short enough to permit revitalization of the judicial process compatible with an expanding economy, new technology, and changes in industry structure. A Chief Judge designated by the President should assign judges to cases on a rotating basis rather than to specialized panels. This would allow judges to maintain an open perspective and avoid identification of particular judges with specific types of proceedings.

The Restructured Agencies

The single administrator form, limited internal review, and the Administrative Court create a structure within which several regulatory functions can be realigned to reflect a more rational and potentially more effective placement of responsibilities.

Transportation

Three agencies presently regulate transportation: the ICC (railroads, trucks, buses, freight forwarders, barge lines, and pipelines), the CAB (air carriers), and the FMC (maritime shipping). While the reasons for dividing responsibility among three agencies may have been compelling as transportation regulation evolved, we found no persuasive reasons to justify the continuation of these divisions. To the contrary, grouping these responsibilities within a single Transportation Regulatory Agency has many advantages. These are set forth at length in chapter 3.

Today, there is a singularly vital need for a regulatory facility which is consonant with the increasing interdependence of transportation modes, competition among the modes, and integration of transportation into effective networks. The proposed Transportation Regulatory Agency would be charged with weighing the interests of each transportation mode in terms of the public interest. Rules and procedures for uniform classifications and for coordinated rates, routes, and industry practices would be possible when now such action is virtually impossible.

Promotional as distinct from regulatory functions of the existing transportation agencies—such as the subsidy-granting activity of the CAB—should be consolidated in the Department of Transportation which has primary concern for industry promotion. This would eliminate conflicting responsibilities for promotion and regulation within a single agency.

Trade

While transportation regulation is in our view better administered by one agency, regulation of antitrust enforcement and consumer protection is ill-combined in the FTC.

Although both activities aim at assuring fair business practices and preserving competition in American industry, methods of investigation, negotiation, and enforcement of their respective statutory mandates differ widely. Each requires different expertise and procedures. Consumer protection relies primarily on the promulgation of rules and regulations together with field investigations. Antitrust enforcement entails intensive study of the industry and of the economic impact of industry practices.

As detailed in chapter 4, to fulfill these separable responsibilities the FTC should be abolished and in its place created a new Federal Trade

Practices Agency for protecting consumers and a new Federal Antitrust Board for antitrust enforcement.

The Federal Trade Practices Agency would establish trade practice policies, both on its own initiative and in response to public initiatives. It would also investigate actual instances of alleged violations of fair trade practices. Since many such complaints are of limited financial consequence and are amenable to prompt resolution, hearing examiners situated in regional offices of the agency could most expeditiously deal with them. In fact, today many such situations are resolved quickly through the most informal discussion between the FTC and alleged offenders. In those cases where substantial issues are involved, examiners' decisions should be subject to appeal in appropriate Courts of Appeals after opportunity for policy review by the agency administrator.

The Federal Antitrust Board, consisting of a chairman and two economist administrators, would continue dual antitrust enforcement with the Department of Justice. The chairman would be responsible for all executive and administrative duties, and would articulate agency policy. The multimember Board would permit comprehensive micro- and macro-economic analysis by drawing upon the special expertise and perspective of its members. Actions brought by the Board should be heard in the Federal district courts.

Securities

A new Securities and Exchange Agency should supplant the SEC. Internal review of certain judicial proceedings presently commenced before hearing examiners should be limited to 30 days and directed principally to assuring that decisions correctly reflect agency policy. Appeals from agency decisions should be to the Administrative Court. Original actions taken by the SEC in the Federal district courts should continue as they do today. For reasons stated in chapter 5, application of these structural changes would enable the agency to adapt readily to present and future needs of the securities industry and the investing public.

Regulatory responsibilities of the SEC under the Public Utility Holding Company Act of 1935 should be vested in the proposed power regulatory agency, since problems relating to the structure of public utility holding companies are properly within the competence of that agency. For many years, in fact, the SEC has drawn upon FPC expertise in administering the act. This proposal has long had substantial support from both the SEC and FPC.

Power

A new Federal Power Agency should replace the FPC. As with the proposed transportation and securities agencies, as well as for reasons

discussed in chapter 6, the power administrator would be able to respond more effectively than a multimember commission to the needs of the electric power and natural gas industries, their customers, and the public generally. Appeals from final agency decisions would be to the Administrative Court. As noted, the power agency should assume regulatory responsibilities under the Public Utility Holding Company Act.

Communications

The FCC regulates, among other things, radio and television broadcasting, both important sources of public information. To an extent not present in other agencies, regulation in this area involves personal value judgments as to the type, quality, and substance of programming—the product of the industry which the FCC oversees. Clearly, the public has come to rely on the broadcast media for much of its information. The mere appearance of possible undue influence over program content might undermine public confidence in the sources of its information. Thus, we believe it would be inadvisable to place in the hands of a single administrator the power to exercise control over industry members through licensing and programming decisions.

Moreover, because broadcast regulation is uniquely subjective in character, we believe that decisions in this area should reflect the personal values of more than a single individual. This is especially important in view of the fact that even though the damage to society from control of information sources may be substantial, there is no satisfactory remedy for undoing the harm. Accordingly, it is imperative, in the first instance, to build in added safeguards for assuring an uncontrolled flow of ideas and information.

For these reasons, more fully explained in chapter 7, the FCC should be retained as a multimember commission. To offset some of the disadvantages of plural administration, the number of FCC commissioners should be reduced from seven to five, to serve 5-year terms.

CONCLUSION

Most deficiencies and problems of the regulatory agencies stem from an inapposite wedding of form and function. The present commissions combine the passive, judicial characteristics of a court with the active policymaking responsibilities of an administrator, to the detriment of both.

Substantial changes are advisable in the present structure of regulation by collegial bodies. The transportation, power, securities, and trade practices agencies are in need of the vigorous reform which a single administrator is most likely to bring about.

We have not recommended single administrators for all the regulatory agencies because organizational theory should give way when other factors bear greater weight. Although we emphasize organizational principles, we think exceptions should be made where, on balance, supervening considerations apply or greater effectiveness is likely by retaining collegial bodies. Hence, we believe that the overriding needs for a mixture of views in the communications area and for extensive economic judgment at the point of decision in the antitrust field justify plural-headed organizations in these areas.

There has been no attempt to catalog all the flaws of the regulatory structure nor to set forth solutions to all problems. But we have identified the major problems; and we have suggested a constructive plan for refashioning the regulatory structure so that the agencies can perform more effectively and at the same time more fairly.

We do see, moreover, that in our complex and growing society economic regulation must be consistent in its purpose, constructive in its policies, and objective in its decisions. Regulators have the difficult task of balancing the interests of industries and of the public to insure that the latter is well served and that the former remain vigorously able to provide that service. Such is the goal of the proposals we have made.

NOTES

1. "It [the committee] is not persuaded of the soundness of the view sometimes asserted that, to the traditional threefold classification, there must be added a fourth power, conveniently called 'administrative,' which somehow involves the exercise of functions which are neither executive, legislative, nor judicial and thus escapes the necessity for safeguards which centuries of experience have built around the exercise of such functions." Report of the Special Committee on Administrative Law, before the 57th Annual Meeting of the American Bar Association, Milwaukee, Aug. 28-31, 1934, in "Separation of Powers and the Independent Agencies: Cases and Selected Readings," Committee on the Judiciary, S. Doc. No. 91-49, at 216 (1970).

2. The President's Committee on Administrative Management, "Report of the Committee With Studies of Administrative Management in the Federal Government," pt. I, at 40 (1937) (hereinafter referred to as Brownlow report).

3. See M. Bernstein, "Regulating Business by Independent Commission" 283 (Princeton University Press, Princeton, 1955) (hereinafter referred to as Bernstein).

4. See generally "Report of the Special Committee on Administrative Law" before the 57th Annual Meeting of the American Bar Association *supra* note 1; Brownlow report, *supra* note 2; "The U.S. Commission on Organization of the Executive Branch of the Government, the Independent Regulatory Commissions," Rept. No. 12, March 1949 (U.S. Government Printing Office, Washington, D.C., 1949) (hereinafter referred to as First Hoover Commission Report); Bernstein, *supra* note 3; J. Landis, "Report on Regulatory Agencies to the President-Elect," printed for use of the Senate Committee on the Judiciary, 86th Cong., Second sess. (1960) (hereinafter referred to as Landis report).

5. "Usually these investigations or hearings are sporadic in nature having been sparked by some incident that has caught the attention of the press. Regular surveys of their activities would be far more valuable." Landis report, supra note 4, at 34-35; "Congress has found no effective way of supervising them, they cannot be controlled by the President, and they are answerable to the courts only in the respect to the legality of their activities." Brownlow report, supra note 2, at 40.

6. "This arrangement [a chairman designated by the President and responsible for administration and staff] has advantages for the Commission as well. Over the long pull, it must function as a part of the Government as a whole. For one thing, it can accomplish its duties only with proper appropriations and that may require sympathetic help from the Chief Executive with respect to its budget." The U.S. Commission on Organization of the Executive Branch of the Government, Committee on Independent Regulatory Commissions: A Report with Recommendations, Jan. 13, 1949 (U.S. Government Printing Office, Washington, D.C., 1949) (hereinafter referred to as "First Hoover Commission Task Force Report"); "[S]o far an administration carried on by a group is concerned, there is little to commend it. It is on the purely administrative side that the independent commissions are weakest, and gain rather than loss would result from centralizing control and responsibility. * * * For purposes of management, boards and commissions have turned out to be failures." Brownlow report, supra note 2, at 21; "Administration by a plural executive is universally regarded as inefficient." "First Hoover Commission Report," supra note 4, at 5.

7. Eisenhower administration: "U.S. Commission on Organization of the Executive Branch of the Government, Legal Services and Procedure" (U.S. Government Printing Office, Washington, D.C., 1955) (hereinafter referred to as "Second Hoover Commission Report").

Kennedy administration: Landis report, supra note 4.

Johnson administration: "President's Task Force Report on Government Organization"; "Price Task Force 1964"; "Heineman Task Force Report 1967" (unpublished).

8. See, e.g., 5 U.S.C. 901 (a), 902(1)(a) (supp. IV, 1965-68); see also 5 U.S.C. 105 (supp. IV, 1965-68); 31 U.S.C. 2, 18(a)(b) (1964).

9. See, e.g., Packers and Stockyards Act, 7 U.S.C. 181-231 (1964) as amended (supp. IV, 1965-68), administered by the Department of Agriculture; Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 301-392 (1964), as amended (supp. IV, 1965-68), administered by the Food and Drug Administration; and the Commodity Exchange Act, 7 U.S.C. 1-17(a) (1964), administered by the Commodity Exchange Commission under the executive branch.

10. Reorganization Plan No. 3 of 1970, prepared by the President and transmitted to the Senate and the House of Representatives, July 9, 1970, pursuant to the provisions of 5 U.S.C. ch. 9.

11. "In both the ICC and the FTC, long tenures and the tradition of reappointment have tended to make incumbent commissioners relatively insensitive to new industrial developments and rather hostile to new ideas about regulatory policy and administrative practice." Bernstein, supra note 3, at 108.

12. "There is a little evidence that commissioners divide on major policy issues according to their party affiliations." Bernstein, supra note 3, at 104. See generally E. Herring, "Federal Commissioners—A Study of Their Careers and Qualifications" (Harvard University Press, Cambridge, 1936).

13. See E. Redford, "American Government and the Economy" 587-590 (Macmillan, New York City, 1965).

14. For an in-depth historical analysis see "Final Report of the Attorney General's Committee on Administrative Procedure," ch. 1 (U.S. Government Printing Office, Washington, D.C., 1941); J. Anderson, "The Emergence of the Modern Regulatory State" (Public Affairs Press, Washington, D.C., 1962) (hereinafter referred to as Anderson).