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ATOMIC ENERGY

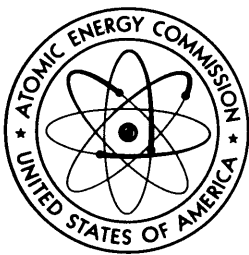
1958-1959

FALLOUT FROM NUCLEAR WEAPONS TESTS

By
Charles L. Dunham

Director, Division of Biology and Medicine,
Atomic Energy Commission

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UNITED STATES ATOMIC ENERGY COMMISSION
Technical Information Service, Oak Ridge, Tennessee

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FEDERAL REGISTER

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NUMBER 1

Page 6

Washington, Wednesday, January 4, 1956

TITLE 10—ATOMIC ENERGY**Chapter I—Atomic Energy Commission****PART 55—OPERATORS' LICENSES**

Notice is hereby given that the Atomic Energy Commission has adopted the following rules. The regulations are to become effective 30 days after date of publication.

GENERAL PROVISIONS

- Sec.
55.1 Purpose.
55.2 Scope.
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- 55.20 Scope.
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LICENSES

- 55.30 Issuance of licenses.
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55.32 Expiration.
55.33 Renewal of licenses.

MODIFICATION AND REVOCATION OF LICENSES

- 55.40 Modification and revocation of licenses.
55.41 Notification of disability.

ENFORCEMENT

- 55.50 Violations.

CERTIFICATE OF MEDICAL EXAMINATION FOR OPERATOR'S LICENSE

- 55.60 Examination form.

AUTHORITY: §§ 55.1 to 55.60 issued under sec. 161, 68 Stat. 948; 22 U. S. C. Sup. 2201. Interprets or applies sec. 107, 68 Stat. 939; 22 U. S. C. Sup. 2137. Additional authority and statutory provisions interpreted or applied are cited to text in parentheses.

GENERAL PROVISIONS

§ 55.1 *Purpose.* The regulations in this part establish procedures and minimum criteria for the issuance of licenses to operators of production and utilization facilities licensed pursuant to the Atomic Energy Act of 1954 (68 Stat. 919); and establish and provide for the terms

and conditions upon which the Commission will issue such licenses.

§ 55.2 *Scope.* (a) The regulations contained in this part apply to any individual who manipulates the controls of any facility licensed pursuant to Part 50 of this chapter.

(b) No individual shall manipulate the controls of any facility licensed pursuant to Part 50 of this chapter without a valid license issued pursuant to the regulations in this part.

(Secs. 1611, 223, 68 Stat. 949, 958; 22 U. S. C. 2201 (1), 2273)

§ 55.3 *Definitions.* As used in this part:

(a) "Act" means the Atomic Energy Act of 1954 (68 Stat. 919), including any amendments thereto;

(b) "Controls" means those controls of a production or utilization facility which by manipulation or failure to manipulate singly or in combination could result in the release of atomic energy or radioactive material in amounts determined by the Commission to be sufficient to cause danger to the health and safety of the public;

(c) "Commission" means the Atomic Energy Commission or its duly authorized representatives;

(d) "Facility" means any "production facility" or "utilization facility" as defined in Part 50 of this chapter.

(e) "Class of facility" means facilities determined by the Commission to be sufficiently similar in design and operating characteristics to warrant licensing an individual to operate any of the facilities within the class;

(f) "Operator" is any individual who manipulates a control of a facility. An individual is not deemed to manipulate a control within the meaning of this definition if he manipulates the control only under the direction and in the presence of a licensed operator. An individual is deemed to manipulate a control if he directs another to manipulate a control in his presence.

§ 55.4 *Communications.* All communications concerning the regulations in this part, including applications for initial licenses and renewals thereof should be addressed to the United States

Atomic Energy Commission, 1901 Constitution Avenue NW., Washington 25, D. C., Attention: Director, Division of Civilian Application.

§ 55.5 *Interpretations.* Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

APPLICATIONS

§ 55.10 *Contents of applications.* (a) Each application shall contain the following information:

(1) The full name, citizenship, age, address, and present employment of the applicant;

(2) The education and experience of the applicant;

(3) Serial numbers of any operators' licenses issued by the Commission to the applicant, and whether such licenses are still in effect, have expired, or have been revoked, modified or suspended.

(4) The specific control or controls of the facility or class of facility for the manipulation of which the applicant seeks the license;

(5) The facility at which the applicant proposes to be tested for operating proficiency, and the written consent of the facilities licensee to the use of that facility for such test.

(6) Evidence that the applicant has learned to operate the control or controls in a competent and safe manner. Ordinarily the Commission will accept as proof of this a certification of a qualified instructor or supervisor responsible for the safe operation of the facility in which the applicant will be employed.

(b) The applicant shall also cause to be furnished a report of a medical examination by a licensed medical practitioner in the form prescribed in § 55.60.

(c) The Commission may at any time after the filing of the original application, and before the expiration of the license, require further statements in order to enable the Commission to determine whether the application should be granted or denied or whether a license

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atomic energy

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ALASKA LEGISLATIVE COUNCIL

Harry V. Gibson, M.D., Commissioner of Health
Alaska Department of Health, Juneau, Ala.

July 17, 1958

Amos J. Alter, Chief
Sec. of Sanitation and Engineering

Senate Chamber Conferences on
Proposed Nuclear Demolition Project

This is to inform you of recent events during your absence on conferences with a staff of scientists representing the Radiation Laboratory at Livermore, ABC, and the Sandia Corporation. The subject was on the proposed project of excavating a harbor in north-west Alaska at Cape Thompson (primary choice) using nuclear demolition methods.

I was notified by the Governor's Office to make the conference arrangements and to assist this group in other aspects of this program.

A preliminary conference was held in the office of the Governor and the Senate Chamber Monday morning, July 14 in order to formulate a plan of conference procedure.

The following scientists represented the Project "Plowshare" (use of nuclear explosives for peaceful purposes):

1. Dr. Edward Teller, Director of the University of California Radiation Laboratory at Livermore.
2. Dr. Gerald W. Johnson, Test Division Leader, UCRL.
3. Mr. Wallace B. Reynolds, Business Manager, UCRL.
4. Mr. Duane C. Sewell, Director of Scientific Operations, UCRL.
5. Dr. Harold A. Fidler, Manager, San Francisco Operation Office, U. S. Atomic Energy Commission
- 6.
6. Dr. Melvin L. Merritt, Manager, Weapons Effects Department, Sandia Corporation, Albuquerque, New Mexico.
7. Mr. Richard A. Bice, Director of Field Testing, Sandia, Corp.

After the preliminary meeting on Monday morning with the "Plowshare" group in which several Section of Sanitation and Engineering representatives and myself were present, other agencies of the Territorial and Federal governments were notified to meet in the Senate Chamber at 1:15 P.M. (Monday) for attendance at a general hearing on the proposed project.

At the general hearing the following persons were in attendance



(Atomic energy)

ALASKA LEGISLATIVE COUNCIL ALASKA DEPARTMENT OF HEALTH

HARRY V. GIBSON, M.D. COMMISSIONER OF HEALTH

ALASKA OFFICE BUILDING

JUNEAU, ALASKA

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AP 2

By-product Material Licenses

Pursuant to the Atomic Energy Act of 1954, the following agencies have been issued licenses to receive and use by-product material in Alaska.

License	By-product Material	Address	Date
Univ. of Alaska Research, U.S.F.W.S. Federal CDA	Cobalt - 60 Carbon - 14 Cobalt - 60	College, Alaska King Salmon, Alaska University of Alaska College, Alaska	4-11-57 5-15-57 2-10-58
Geophysical Institute	Strontium - 90	Univ. of Alaska College, Alaska	6-16-58
FAA Calif. Research Corp. Tracerlab, Inc.	Cobalt - 60 Cobalt - 60 By-product Material between Nos. 3 & 83 Incl.	Anchorage, Alaska Skagway, Alaska Alaska	7-21-58 7-10-58 8-7-58
Rendix Aviation Corp. Babcock and Wilcox Co. Calif. Research Corp.	Cesium - 137 Cobalt - 60 Cobalt - 60	Alaska Alaska Skagway & Anchorage Alaska	7-23-58 9-30-58 9-12-58
FAA Winthrop Fish, M.D. M.T. Mullaly - FAA Charles Thomas - FAA Dept. of Army U. S. Dept. of Interior Tracerlab, Inc.	Cobalt - 60 Iodine - 131 Cobalt - 60 Cobalt - 60 Cesium - 137 Cobalt - 60 By-product Material between Atomic Nos. 3-83	Anchorage, Alaska Anchorage, Alaska Anchorage, Alaska Anchorage, Alaska Alaska Alaska Alaska	11-7-58 11-14-58 12-5-58 12-5-58 12-11-58 12-12-58 1-12-59
Assoc. of Am. R.R. Geophysical Inst.	Cobalt - 60 Strontium - 90	Alaska Univ. of Alaska College, Alaska	1-13-59 1-22-59
Assoc. of Am. R.R. Tracerlab, Inc.	Cobalt - 60 By-product material between Atomic Nos. 3 & 83, incl. Polonium - 210, Hydrogen-3	Alaska Alaska	1-31-60 1-31-61
Geophysical Institute	Cobalt - 60	Univ. of Alaska College, Alaska	1-31-64
High Voltage Engr. Corp.	Hydrogen - 3	Alaska	1-31-64

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ALASKA LEGISLATIVE COUNCIL

December 2, 1958

Mr. E. Bernsohn, Sr. Project Engineer
Nuclear Development Corp. of America
5 New Street
White Plains, N. Y.

Dear Mr. Bernsohn:

Your letter of October 28, 1958 directed to Mr. LaMar Hubbs, Acting Chief, Environmental Health Section, Arctic Health Research Center, and another letter dated November 13, 1958 to Dr. Harry V. Gibson, Commissioner of Health, have been referred to me for reply.

A copy of the Alaska Radiation Protection Act as well as a copy of the proposed regulations under this Act are enclosed for your information. We are also enclosing a copy of the Alaska Water Pollution Control Act. We would like to call your particular attention to the following reprints in reference to treatment and disposal of radioactive wastes:

"Sources and Control of Radioactive Water Pollutants" by E. C. Tsivoglou and W. W. Towne. Copyright, 1957; reprinted in USA from Vol. 29, No. 2, February 1957 SEWAGE AND INDUSTRIAL WASTES, Washington 16, D.C.

"Treatment and Disposal of Atomic Energy Industry Wastes" by Joseph A. Lieberman and Arthur E. Gorman. PROCEEDINGS, American Society of Civil Engineers, March, 1954, Volume 80, Separate No. 422.

I am very sorry we do not have copies of these and other reprints for your use. However, I am sure that you will have ready reference to this material.

We wish to cite particularly Section 7, page 6 of the Alaska Water Pollution Control Act calling for the submission of plans necessary in connection with your project. In a project of the nature you propose, it is particularly important that the engineering report submitted with your plans go into considerable detail on the protective features that you incorporate into your design. It is also necessary that your report show appropriate justification for site selection. Policy manual HSE-7-1 containing descriptive material of the nature of reports, preliminary plans, etc. requested by this agency is enclosed.

We sincerely regret that it will not be possible for us to do the necessary field survey work for you; however, we trust that you will be able to make suitable arrangements for water, air, soil, population, and other studies necessary for protection of public health and safety. As soon as we have received the results of your field studies along with the completed Application for Approval of Plans forms (copies of these forms are enclosed for your use), immediate action will be taken towards the planning of a hearing and other action necessary in connection with the issuance of the permit for waste disposal from your proposed plant.

We are most desirous of working very closely with you and urge that you arrange to have an engineer in responsible charge of the design of your facility to visit this office for discussion of survey details, plan submission, and details of arrangements for issuance of the necessary permits. Although, as I have previously mentioned, it will not be possible for us to conduct the studies you

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ALASKA LEGISLATIVE COUNCIL

(No illustration available)

SODIUM HEAVY-WATER REACTOR

CHUGACH NUCLEAR POWER PLANT

Anchorage, Alaska

A sodium cooled, heavy water moderated reactor power plant with a capacity of 10,000 electrical kilowatts is planned for the Chugach Electric Association, Inc., Anchorage, Alaska. This reactor will combine the high temperature of sodium as coolant with the good neutron economy of heavy water as moderator.

The Atomic Energy Commission has contracted with the Nuclear Development Corporation of America for research, development, and preliminary design necessary to demonstrate the feasibility of the reactor concept. This work is in progress; completion of the plant is tentatively scheduled for 1962.

The simplified model pictured below represents a vertical section of the chief components of one of several designs being evaluated. The reactor is in the center of a mass of concrete, immediately under a shield plug.

Hot sodium gives up its heat in the primary heat exchanger. Returning from the primary heat exchanger, it circulates upward through stainless steel fuel tubes containing slightly enriched uranium in their central portion. The stainless steel tubes pass through an aluminum moderator tank (calandria) containing the heavy water moderator. The small amount of heat reaching the moderator is dissipated

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DAILY ALASKA EMPIRE

JUNEAU, ALASKA, TUESDAY, AUGUST 12, 1958

MEMBER ASSOCIATED PRESS

Says Atomic Radiation Report From UN Upsels 'Pet Theories' Of AEC

WASHINGTON — Sen. Clinton B. Anderson, (D-NM) said a report on atomic radiation from the United Nations scientific committee destroys some pet theories of the Atomic Energy Commission. Anderson, ranking Democratic senator on the congressional atomic committee, said the UN report isn't a shocker but it's a "very solemn warning to be careful with its new force."

"I think this is a very fine document because it's called attention to the holes in our program and the things we aren't doing," Anderson said.

The 15-nation UN committee said in a weekend report that even slow, slight increases in world radioactivity from nuclear weapons tests and other sources endanger's mankind's future health. The AEC commented that the report generally confirmed 1956 statements by the U.S. National Academy of Sciences as to possible hazards for radiation.

The AEC added: "It is important to note that insofar as Leukemia and bone cancer are concerned, the committee has pointed out there is no certainty that fallout will produce any additional cases of either disease."

Anderson, asked to cite examples of AEC pet theories he said were destroyed, replied that "the refusal of the United States to deal realistically with this question of cessation of the weapons tests is a hole in our program."

SUGGESTED STATE LEGISLATION PROGRAM FOR 1957

THE COUNCIL OF STATE GOVERNMENTS

COORDINATION OF ATOMIC DEVELOPMENT

The 1954 amendments to the federal Atomic Energy Act granted private organizations and individuals the right to possess nuclear materials and to own and operate nuclear reactors. Previously, ownership of all such materials and reactors was vested in the federal government. Private companies and individuals acted in this field only as agents of the Atomic Energy Commission. The 1954 amendments permit them to act in their private capacities under licenses issued by the AEC.

This far-reaching change in the legal status of activities involving nuclear materials makes them subject for the first time to state control and regulation. More and more, decisions about the development of nuclear energy will be made by private business, and to an increasing extent, work in this area will be financed by private capital. These changes require that states prepare to assume their responsibilities in this vitally important area.

State agencies most directly concerned include public utility commissions, health departments, and labor and industrial safety divisions. Others which will be involved may include departments of conservation and agriculture, planning and development agencies, commissions regulating the sale of securities, and workmen's compensation boards. In the exercise of their powers, the states may find it desirable to adopt regulatory and control measures based on their police powers and having as their objective the protection of the public health, safety and welfare. They also may undertake promotional and educational activities to stimulate the development of nuclear energy for the benefit of their citizens.

Several states, including Florida, Illinois, Michigan, New York, Texas, Virginia and Wisconsin, already have undertaken special studies of developments in this broad field, with particular reference to the role of the states. Both the New England and the Southern Governors' Conferences have initiated regional studies and projects on the development of atomic energy for peaceful purposes.

In addition to the establishment of study groups, at least five states have enacted state atomic energy laws. These states and the citations to these acts are as follows: Connecticut (Public Act No. 46, Special Session, June, 1955); Maine (Chapter 105, Public Laws of 1955); New Hampshire (House Bill 168, Laws of 1955); Rhode Island (Chapter 3416, Laws of 1955); South Carolina (Senate Bill 531, Laws of 1956). The laws of the first three of these states follow closely a suggested draft prepared for the New England Governors' Conference. These acts create the post of coordinator of atomic development activities in the office of the governor, and provide for studies of atomic development by other state agencies. The South Carolina act also appears to be based on the New England proposal, but does not include the provision for the position of coordinator. The Rhode Island statute establishes a State Atomic Energy Commission.

States may wish to enact legislation to provide general coordination of developments in the field of atomic energy. The following act is designed to insure that major state officials will be apprised of these developments, and to provide a means by which states may formulate policies in this area on the basis of expert knowledge and advice. At the same time, it does not impose rigid, detailed regulations which might hamper the development of atomic energy in the state.

ALASKA LEGISLATIVE COUNCIL
THE COUNCIL OF STATE GOVERNMENTS
1313 EAST SIXTIETH STREET, CHICAGO 37, ILLINOIS

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ALASKA LEGISLATIVE COUNCIL
JUNEAU, ALASKA

October 3, 1958

TO LEGISLATIVE SERVICE AGENCIES:

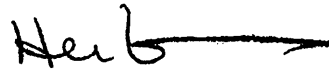
Enclosed for your information is a complete set of the Atomic Energy and Radiation Protection proposals approved on September 3-4 by our Committee on Suggested State Legislation -- proposals which will be included in the forthcoming report of that Committee, Program for 1959.

We thought that you would like to have advance copies of these proposals since the subject matter is of great interest in all state legislatures and to many of the legislative interim study committees and councils.

Please let us know if you would like additional copies of this material. Copy of the full report will be sent to you, of course, as soon as we receive it from the printer the latter part of October.

With kindest regards, I am

Very sincerely,



Herbert L. Wiltsee
Southern Representative

HLW:LLJ

(Reprinted from 23 Federal Register 5721, July 30, 1958)

TITLE 10—ATOMIC ENERGY

**Chapter I—Atomic Energy
Commission**

**PART 20—STANDARDS FOR PROTECTION
AGAINST RADIATION**

TREATMENT OR DISPOSAL BY INCINERATION

The following amendment is designed to remove an ambiguity in the current regulation and to assure that no licensee shall treat or dispose of any licensed material by incineration without prior Commission approval of his proposed procedures.

Inasmuch as this amendment is designed to clarify an existing regulation and not to effect any change in the Commission's procedures and requirements, the Atomic Energy Commission has found that general notice of proposed rule making and public procedure thereon are unnecessary. The Commission will, however, give consideration to any comments or suggestions concerning the amendment. All interested persons who desire to submit written comments and suggestions relating to the following amendment should send them to the United States Atomic Energy Commission, Washington 25, D. C., Attention: Director, Division of Licensing and Regulation.

Effective thirty days after publication in the FEDERAL REGISTER, a new § 20.305 is added to Title 10, Chapter I, Part 20—Standards for Protection Against Radiation, to read as follows:

§ 20.305 *Treatment or disposal by incineration.* No licensee shall treat or dispose of licensed material by incineration except as specifically approved by the Commission, pursuant to §§ 20.103 (a) and 20.302.

(Sec. 161, 68 Stat. 948, as amended; 42 U. S. C. 2201)

Dated at Germantown, Md., this 7th day of July 1958.

For the Atomic Energy Commission.

PAUL F. FOSTER,
General Manager.

[F. R. Doc. 58-5775; Filed, July 29, 1958;
8:45 a. m.]

ATOMIC ENERGY COMMISSION

(Reprinted from 23, Federal Register, 1121, February 21, 1958)

TITLE 10—ATOMIC ENERGY

Chapter I—Atomic Energy Commission

PART 2—RULES OF PRACTICE

PART 20—STANDARDS FOR PROTECTION AGAINST RADIATION

PART 25—ACCESS TO RESTRICTED DATA

PART 30—LICENSING OF BYPRODUCT MATERIAL

PART 37—RADIOISOTOPE RESEARCH SUPPORT PROGRAM

PART 40—CONTROL OF SOURCE MATERIAL

PART 50—LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

PART 55—OPERATORS' LICENSES

PART 70—SPECIAL NUCLEAR MATERIAL

PART 81—STANDARD SPECIFICATIONS FOR THE GRANTING OF PATENT LICENSES

PART 95—SAFEGUARDING OF RESTRICTED DATA

PART 110—UNCLASSIFIED ACTIVITIES IN FOREIGN ATOMIC ENERGY PROGRAMS

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

MISCELLANEOUS AMENDMENTS

These amendments to Title 10, Chapter I, eliminate the former address of the Atomic Energy Commission and substitute therefor the new mailing address. They also provide that communications and papers may be delivered in person either at 1717 H Street NW., Washington, D. C., or at Germantown, Md.

The amendments further provide for appropriate recognition of the organizational units created upon dissolution of the Division of Civilian Application.

Because the amendments are corrective only, and because interested persons will not be adversely affected, the Atomic Energy Commission has found that general notice of proposed rule making and

public procedure thereon are unnecessary; and that good cause exists why these amendments should be made effective upon publication in the FEDERAL REGISTER without the customary 30-day period of notice.

1. Sections 20.7 of Part 20, 25.5 of Part 25, 37.5 of Part 37, 40.52 of Part 40, 55.4 of Part 55, 70.5 of Part 70, 81.3 of Part 81, 95.4 of Part 95, 110.4 of Part 110, 140.5 of Part 140 are amended by deleting the words "1901 Constitution Avenue NW." and adding "Communications and reports may be delivered in person at the Commission's offices at 1717 H Street NW., Washington, D. C., or its offices at Germantown, Md." at the end of each of the designated sections.

2. Sections 2.700 of Part 2, 25.11 (a) of Part 25, 40.20 of Part 40, 50.30 of Part 50, 70.21 (a) of Part 70 are amended by deleting the words "1901 Constitution Avenue NW." and adding "Papers may be filed in person at the Commission's offices at 1717 H Street NW., Washington, D. C., or its offices at Germantown, Md." at the end of each of the designated sections.

3. Parts 2, 20, 30, 40, 50, 55, 70, 110, and 140 are amended by substituting "Division of Licensing and Regulation" wherever the name "Division of Civilian Application" appears.

4. The title "Office of Industrial Development" is substituted for the name "Division of Civilian Application" wherever it appears in Parts 25 and 95.

5. Effective February 15, 1958, § 30.22 of Part 30 is amended by deleting "Post Office Box E, Oak Ridge, Tennessee" and substituting therefor "1717 H Street NW., Washington, D. C."

Dated at Germantown, Md., this 11th day of February 1958.

For the Atomic Energy Commission.

K. E. FIELDS,
General Manager.

[F. R. Doc. 58-1304; Filed, Feb. 20, 1958;
8:45 a. m.]

ATOMIC ENERGY COMMISSION

(Reprinted from 22 Federal Register 548, January 29, 1957)

TITLE 10—ATOMIC ENERGY

Chapter I—Atomic Energy
CommissionPART 20—STANDARDS FOR PROTECTION
AGAINST RADIATION

In July 1955 the Commission issued for public comment a proposed regulation to establish general standards for protection of licensees, their employees, and the public against radiation hazards arising out of the possession or use of special nuclear, source, or byproduct material under license issued by AEC. In preparing the effective regulation published below, the Commission has had the benefit of numerous comments and suggestions received since publication of the proposed rules. A number of changes suggested by those comments have been incorporated in the following regulation.

The regulation establishes standards which must be followed in handling radioactive materials which are subject to the licensing authority of the Commission and provides procedures whereby deviations from such standards may be authorized on a case-to-case basis. The regulation prescribes limits which govern exposure of personnel to radiation and concentrations of radioactive material, concentrations of radioactive material which may be discharged into air and water, and disposal of radioactive wastes. It also establishes certain precautionary procedures and administrative controls.

The standards established by this regulation will be found to agree substantially with those published by the National Committee on Radiation Protection in N. B. S. Handbook 52 "Maximum Permissible Amounts of Radioisotopes in the Human Body and Maximum Permissible Concentrations in Air and Water," and N. B. S. Handbook 59 "Permissible Dose from External Sources of Ionizing Radiation." The National Committee on Radiation Protection has under review recommendations to limit cumulative exposures over periods of years. The Commission is giving consideration to appropriate amendments to its regulations to deal with this cumulative

exposure problem.

Limitations upon levels of radiation and concentrations of radioactive material in areas affected by but not controlled by the licensee are contained principally in §20.102 ("Permissible Levels of Radiation in Unrestricted Areas"), §20.103 ("Concentrations in Effluents to Unrestricted Areas"), and the sections on waste disposal. The sections are designed to assure that individuals in "unrestricted areas" do not receive exposure in excess of 10 percent of the limits established for persons exposed in restricted areas. For this purpose, the sections limit levels of radiation and concentrations of radioactive material which may be created in unrestricted areas by licensees, without special authorization from the AEC, to extremely low levels. These levels are believed to be sufficiently low to assure that there is no reasonable probability of individuals in unrestricted areas receiving exposures in excess of 10 percent of the permissible levels for restricted areas. Procedures are incorporated in those sections, however, under which the Commission may authorize licensees in specific cases to create higher levels in unrestricted areas where the circumstances of the particular case are such as to provide reasonable assurance that individuals in the unrestricted areas will not receive exposures in excess of 10 percent of the limitation established for restricted areas.

It is believed that the standards incorporated in these regulations provide, in accordance with present knowledge, a very substantial margin of safety for exposed individuals. It is believed also that the standards are practical from the standpoint of licensees. It should be emphasized that the standards are subject to change with the development of new knowledge, with significant increase in the average exposure of the whole population to radiation, and with further experience in the administration of the Commission's regulatory program.

Pursuant to the Administrative Procedures Act, Public Law 404, 79th Congress, 2d Session, the following rules are published as a document subject to codi-

fication to be effective 30 days after publication in the FEDERAL REGISTER.

GENERAL PROVISIONS	
Sec.	Purpose.
20.1	Scope.
20.2	Definitions.
20.3	Units of radiation dose.
20.4	Units of radioactivity.
20.5	Interpretations.
20.6	Communications.
20.7	
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20.103	Concentrations in effluents to unrestricted areas.
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20.105	Measures to be taken after excessive exposures.
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20.202	Personnel monitoring.
20.203	Caution signs, labels, and signals.
20.204	Exceptions from posting requirements.
20.205	Exemptions for radioactive materials packaged for shipment.
20.206	Instruction of personnel.
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20.402	Reports of theft or loss of licensed material.
EXCEPTIONS AND ADDITIONAL REQUIREMENTS	
20.501	Applications for exemptions.
20.502	Additional requirements.
ENFORCEMENT	
20.601	Violations.
AUTHORITY: §§ 20.1 to 20.601 issued under sec. 161 (b), 68 Stat 948, 42 U. S. C. 2201.	
GENERAL PROVISIONS	
§ 20.1	Purpose. (a) The regulations

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ATOMIC ENERGY COMMISSION

(Reprinted from 23, Federal Register, 1121, February 21, 1958)

TITLE 10—ATOMIC ENERGY

Chapter I—Atomic Energy Commission

PART 2—RULES OF PRACTICE

PART 20—STANDARDS FOR PROTECTION AGAINST RADIATION

PART 25—ACCESS TO RESTRICTED DATA

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PART 37—RADIOISOTOPE RESEARCH SUPPORT PROGRAM

PART 40—CONTROL OF SOURCE MATERIAL

PART 50—LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

PART 55—OPERATORS' LICENSES

PART 70—SPECIAL NUCLEAR MATERIAL

PART 81—STANDARD SPECIFICATIONS FOR THE GRANTING OF PATENT LICENSES

PART 95—SAFEGUARDING OF RESTRICTED DATA

PART 110—UNCLASSIFIED ACTIVITIES IN FOREIGN ATOMIC ENERGY PROGRAMS

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

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public procedure thereon are unnecessary; and that good cause exists why these amendments should be made effective upon publication in the FEDERAL REGISTER without the customary 30-day period of notice.

1. Sections 20.7 of Part 20, 25.5 of Part 25, 37.5 of Part 37, 40.52 of Part 40, 55.4 of Part 55, 70.5 of Part 70, 81.3 of Part 81, 95.4 of Part 95, 110.4 of Part 110, 140.5 of Part 140 are amended by deleting the words "1901 Constitution Avenue NW." and adding "Communications and reports may be delivered in person at the Commission's offices at 1717 H Street NW., Washington, D. C., or its offices at Germantown, Md." at the end of each of the designated sections.

2. Sections 2.700 of Part 2, 25.11 (a) of Part 25, 40.20 of Part 40, 50.30 of Part 50, 70.21 (a) of Part 70 are amended by deleting the words "1901 Constitution Avenue NW." and adding "Papers may be filed in person at the Commission's offices at 1717 H Street NW., Washington, D. C., or its offices at Germantown, Md." at the end of each of the designated sections.

3. Parts 2, 20, 30, 40, 50, 55, 70, 110, and 140 are amended by substituting "Division of Licensing and Regulation" wherever the name "Division of Civilian Application" appears.

4. The title "Office of Industrial Development" is substituted for the name "Division of Civilian Application" wherever it appears in Parts 25 and 95.

5. Effective February 15, 1958, § 30.22 of Part 30 is amended by deleting "Post Office Box E, Oak Ridge, Tennessee" and substituting therefor "1717 H Street NW., Washington, D. C."

Dated at Germantown, Md., this 11th day of February 1958.

For the Atomic Energy Commission.

K. E. FIELDS,
General Manager.

[F. R. Doc. 58-1304; Filed, Feb. 20, 1958;
8:45 a. m.]

(AEC Reprint Containing Amendments Issued Through October 17, 1957)

TITLE 10—ATOMIC ENERGY**Chapter I—Atomic Energy Commission****PART 30—LICENSING OF BYPRODUCT MATERIAL**

This amendment to Title 10 CFR, Part 30, Radioisotope Distribution, is published for the purpose of bringing it into conformity with the Atomic Energy Act of 1954 (68 Stat. 919) and to establish a simplified and less restrictive procedure relating to the export of byproduct material. In addition, changes have been incorporated in §§ 30.71 and 30.72 to permit the distribution of certain additional types of sealed sources and quantities and types of byproduct material to persons who do not hold specific licenses.

Except as required to accomplish the foregoing purposes, the changes effected by this revision are designed to simplify and clarify provisions of the existing regulations and not to effect substantial changes in the Commission's procedures and requirements relating to the licensing of byproduct material. In light of these considerations, the Atomic Energy Commission has found that general notice of proposed rule-making and public procedure thereon are unnecessary and would be contrary to the public interest.

The Commission has under consideration further amendments to Part 30 which will be published in accordance with procedures designed to afford the customary opportunity for public participation.

All interested persons who desire to submit written comments and suggestions relating to the following amendment should send them to the U. S. Atomic Energy Commission, Washington 25, D. C., Attention of the Director, Division of Civilian Application.

Effective thirty days after publication in the FEDERAL REGISTER, Part 30, Title 10, CFR, "Radioisotope Distribution Regulation" is hereby amended to read as follows:

GENERAL PROVISIONS

- Sec.
- 30.1 Purpose.
- 30.2 Scope.
- 30.3 License requirements.
- 30.4 Definitions.
- 30.5 Interpretations.

EXEMPTIONS

- Sec.
- 30.6 Persons operating Commission-owned facilities.
- 30.7 Carriers.
- 30.8 Other exemptions.

GENERAL LICENSES—APPLICATIONS FOR LICENSES

- 30.20 Types of licenses.
- 30.21 General licenses.
- 30.22 Applications for specific licenses.
- 30.23 General requirements for issuance of specific licenses.
- 30.24 Special requirements for issuance of specific licenses.

LICENSES

- 30.31 Issuance of specific licenses for use of byproduct material.
- 30.32 Terms and conditions of licenses.
- 30.33 Exports of byproduct material.
- 30.34 Expiration.
- 30.35 Renewal of license.
- 30.36 Amendment of licenses at request of licensee.
- 30.37 Commission action on applications to renew or amend.
- 30.38 Inalienability of licenses.
- 30.39 Persons possessing byproduct material on effective date of regulations in this part.

RECORDS, REPORTS AND INSPECTIONS

- 30.41 Records.
- 30.42 Reports of exports.
- 30.43 Inspection.
- 30.44 Tests.

MODIFICATION AND REVOCATION OF LICENSES

- 30.51 Modification and revocation of licenses.
- 30.52 Right to withhold or recall byproduct material.

ENFORCEMENT

- 30.61 Violations.

SCHEDULES

- 30.71 Schedule A.
- 30.72 Schedule B.

AUTHORITY: §§ 30.1 to 30.72 Issued under sec. 161, 68 Stat. 948; 42 U. S. C. 2201. Interpret or apply secs. 81, 82, 182, 183, 68 Stat. 935, 953, 954. 42 U. S. C. 2111, 2112, 2232, 2233. For the purposes of sec. 223, 68 Stat. 958; 42 U. S. C. 2273, §§ 30.21 (b) and 30.32 (c) issued under sec. 161b, 68 Stat. 948; 42 U. S. C. 2201 (b) and §§ 30.41, 30.42 and 30.43 issued under sec. 161p, 68 Stat. 950; 42 U. S. C. 2201p.

GENERAL PROVISIONS

§ 30.1 *Purpose.* The regulations in this part are promulgated by the Atomic Energy Commission, pursuant to the Atomic Energy Act of 1954 (68 Stat. 919),

to provide for the licensing of byproduct material.

§ 30.2 *Scope.* Except as provided in §§ 30.6 to 30.8, the regulations in this part apply to all persons in the United States.

§ 30.3 *License requirements.* No person subject to the regulations in this part shall manufacture, produce, transfer, receive, acquire, own, possess, use, import or export byproduct material except as authorized in a specific or general license issued pursuant to the regulations in this part.

§ 30.4 *Definitions.* As used in this part:

(a) "Act" means the Atomic Energy Act of 1954, including any amendments thereto;

(b) "Byproduct material" means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material;

(c) "Commission" means the Atomic Energy Commission and its duly authorized representatives;

(d) "Curie" means that amount of radioactive material which disintegrates at the rate of 37 billion atoms per second;

(e) "Human use" means the internal or external administration of byproduct material, or the radiation therefrom, to human beings;

(f) "License," except where otherwise specified means a license issued pursuant to the regulations in this part;

(g) "Microcurie" means that amount of radioactive material which disintegrates at the rate of 37 thousand atoms per second;

(h) "Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission, any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing;

(i) "Physician" means an individual licensed by a state or territory of the United States, the District of Columbia or the Commonwealth of Puerto Rico to

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ALASKA LEGISLATIVE COUNCIL

ATOMIC ENERGY COMMISSION

PART 40

(Reprinted from 23 Federal Register 4781, June 28, 1958)

TITLE 10—ATOMIC ENERGY

Chapter I—Atomic Energy Commission

PART 40—CONTROL OF SOURCE MATERIAL, ELIMINATION OF PROHIBITION ON CERTAIN USES OF URANIUM

The regulations in Part 40, "Control of Source Material", 10 CFR, contain a provision that unless justified by exceptional circumstances, licenses will not be issued for transfers of uranium for use in the manufacture of or for incorporation in ceramic products, glass products, or photographic film, negatives and prints (§§ 40.28 and 40.61). This restriction on the use of uranium was promulgated as a means of conserving the supply of uranium for essential uses.

At the present time the supply of uranium is such that it is no longer deemed necessary or appropriate to continue this restriction in effect.

Inasmuch as this amendment is intended to relieve from, rather than to impose, restrictions under regulations currently in effect, the AEC has found that general notice of proposed rule making and public procedures thereon are unnecessary and that good cause exists why this amendment should be made effective without the customary period of notice.

Part 40 is amended in the following respects:

1. Section 40.28 *Licenses to transfer uranium for certain uses* is deleted.
2. Section 40.61 *Schedule II: Prohibited uses of uranium (see § 40.28)* is deleted.

Dated at Germantown, Md., this 19th day of June 1958.

For the Atomic Energy Commission,

R. W. Cook,
Deputy General Manager.

[F. R. Doc. 58-4945; Filed, June 27, 1958;
8:50 a. m.]

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ALASKA LEGISLATIVE COUNCIL
ATOMIC ENERGY COMMISSION

(Reprinted from Federal Register, January 19, 1956)

TITLE 10—ATOMIC ENERGY

Chapter I—Atomic Energy
Commission

PART 50—LICENSING OF PRODUCTION AND
UTILIZATION FACILITIES

Effective 30 days after publication in the FEDERAL REGISTER, Part 50, 10 CFR, "Control of Facilities for the Production of Fissionable Material," is hereby amended to read as follows:

GENERAL PROVISIONS

- Sec.
50.1 Basis and purpose.
50.2 Definitions.
50.3 Interpretations.

REQUIREMENT OF LICENSE, EXCEPTIONS

- 50.10 License required.
50.11 Exceptions and exemptions from license.
50.12 Specific exemptions.

CLASSIFICATION AND DESCRIPTION OF LICENSES

- 50.20 Two classes of licenses.
50.21 Class 104 licenses; for medical therapy and research and development facilities.
50.22 Class 103 licenses; for commercial and industrial facilities.
50.23 Construction permits.

APPLICATIONS FOR LICENSES, FORM, CONTENTS, INELIGIBILITY OF CERTAIN APPLICANTS

- 50.30 Applications for licenses, oath or affirmation.
50.31 Combining applications.
50.32 Elimination of repetition.
50.33 Contents of applications; general information.
50.34 Contents of applications; technical information hazards summary report.
50.35 Extended time for providing technical information.
50.36 Designation of technical specifications.
50.37 Agreement limiting access to Restricted Data.
50.38 Ineligibility of certain applicants.
50.39 Public inspection of applications.

STANDARDS FOR LICENSES AND CONSTRUCTION PERMITS

- 50.40 Common standards.
50.41 Additional standards for class 104 licenses.
50.42 Additional standards for class 103 licenses.
50.43 Additional standards and provisions affecting class 103 licenses for commercial power.
50.44 Standards for licenses authorizing export only.
50.45 Standards for construction permits.

ISSUANCE, LIMITATIONS, AND CONDITIONS OF LICENSES AND CONSTRUCTION PERMITS

- 50.50 Issuance of licenses and construction permits.
50.51 Duration of license, renewal.
50.52 Combining licenses.
50.53 Jurisdictional limitations.
50.54 Conditions of licenses.

- Sec.
50.55 Conditions of construction permits.
50.56 Conversion of construction permit to license; or amendment of license.

ALLOCATION OF SPECIAL NUCLEAR MATERIAL

- 50.60 Allocation of special nuclear material.

INSPECTIONS, RECORDS, REPORTS

- 50.70 Inspections.
50.71 Maintenance of records, making of reports.

TRANSFER OF LICENSES-CREDITORS' RIGHTS; SURRENDER OF LICENSES

[§§ 50.80 to 50.89 reserved]

AMENDMENT OF LICENSE OR CONSTRUCTION PERMIT AT REQUEST OF HOLDER

- 50.90 Application for amendment of license or construction permit.
50.91 Issuance of amendment.

REVOCATION, SUSPENSION, MODIFICATION, AMENDMENTS OF LICENSES AND CONSTRUCTION PERMITS, EMERGENCY OPERATIONS BY THE COMMISSION

- 50.100 Revocation, suspension, modification of licenses and construction permits for cause.
50.101 Retaking possession of special nuclear material.
50.102 Commission operation after revocation.
50.103 Suspension and operation in war or national emergency.

ENFORCEMENT

- 50.110 Violations.

AUTHORITY: §§ 50.1 to 50.110 issued under sec. 103, 68 Stat. 936, sec. 104, 68 Stat. 937, sec. 161, 68 Stat. 948, sec. 182, 68 Stat. 953, sec. 183, 68 Stat. 954; 42 U. S. C. 2133, 2134, 2201, 2232, 2233. For the purposes of sec. 223, 68 Stat. 958; 42 U. S. C. 2273, § 50.54 (1) issued under sec. 1611, 68 Stat. 949; 42 U. S. C. 2201, and §§ 50.70 to 50.71 issued under sec. 161p., 68 Stat. 950; 42 U. S. C. 2201.

GENERAL PROVISIONS

§ 50.1 *Basis purpose, and procedures applicable.* The regulations in this part are promulgated by the Atomic Energy Commission, pursuant to the Atomic Energy Act of 1954 (68 Stat. 919), to provide for the licensing of production and utilization facilities.

§ 50.2 *Definitions.* As used in this part,

(a) "Production facility" means:
(1) Any nuclear reactor designed or used primarily for the formation of plutonium or uranium 233; or

(2) Any facility designed or used for the separation of the isotopes of uranium or the isotopes of plutonium, except laboratory scale facilities designed or used for experimental or analytical purposes only; or

(3) Any facility designed or used for the processing of irradiated materials containing special nuclear material, except laboratory scale facilities designed

or used for experimental or analytical purposes only.

(b) "Utilization facility" means any nuclear reactor other than one designed or used primarily for the formation of plutonium or U-233.

NOTE: Pursuant to sections 11p and 11v., respectively, of the Act, the Commission may from time to time add to, or otherwise alter, the foregoing definitions of production and utilization facility. It may also include as a facility an important component part especially designed for a facility, but has not at this time included any component parts in the definitions.

(c) "Act" means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto.

(d) "Agreement for cooperation" means any agreement with another nation or regional defense organization, authorized or permitted by sections 54, 57, 64, 82, 103, 104, or 144 of the act, and made pursuant to section 123 of the act.

(e) "Atomic energy" means all forms of energy released in the course of nuclear fission or nuclear transformation.

(f) "Atomic weapon" means any device utilizing atomic energy, exclusive of the means for transporting or propelling the device (where such means is a separable and divisible part of the device), the principal purpose of which is for use as, or for development of, a weapon, a weapon prototype, or a weapon test device.

(g) "By-product material" means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.

(h) "Commission" means the Atomic Energy Commission or its duly authorized representatives.

(i) "Common defense and security" means the common defense and security of the United States.

(j) "Government agency" means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

(k) "Nuclear reactor" means an apparatus, other than an atomic weapon, designed or used to sustain nuclear fission in a self-supporting chain reaction.

(l) "Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission, any State or any political subdivision of, or any polit-

ATOMIC ENERGY COMMISSION

(Reprinted from Federal Register, February 3, 1956)

TITLE 10—ATOMIC ENERGY

Chapter I—Atomic Energy Commission

PART 70—SPECIAL NUCLEAR MATERIAL

Effective 30 days after publication in the FEDERAL REGISTER, Part 70, Title 10, Chapter I, Code of Federal Regulations, entitled "Definition of Fissionable Material," is hereby amended to read as follows:

GENERAL PROVISIONS

- Sec. 70.1 Purpose.
- 70.2 Scope.
- 70.3 License requirements.
- 70.4 Definitions.
- 70.5 Communications.
- 70.6 Interpretations.

EXEMPTIONS

- 70.11 Persons using special nuclear material under contract with and for the account of the Commission.
- 70.12 Carriers.
- 70.13 Department of Defense.
- 70.14 Specific exemptions.

LICENSE APPLICATIONS

- 70.21 Filing.
- 70.22 Contents of applications.
- 70.23 Requirements for the approval of applications.

LICENSES

- 70.31 Issuance of licenses.
- 70.32 Conditions of licenses.
- 70.33 Renewal of licenses.
- 70.34 Amendment of licenses.
- 70.35 Commission action on applications to renew or amend.
- 70.36 Inalienability of licenses.
- 70.37 Disclaimer of warranties.
- 70.38 Reduction and termination of allocations.

ACQUISITION, USE, AND TRANSFER OF SPECIAL NUCLEAR MATERIAL

- 70.41 Authorized use of special nuclear material.
- 70.42 Transfer of special nuclear material.
- 70.43 Licensee's responsibility for special nuclear material.

RECORDS, REPORTS AND INSPECTIONS

- 70.51 Records.
- 70.52 Reports of accidental criticality or loss of special nuclear material.
- 70.53 Inspections.
- 70.54 Tests.

MODIFICATION AND REVOCATION OF LICENSES

- 70.61 Modification and revocation of licenses.
- 70.62 Suspension and operation in war or national emergency.

ENFORCEMENT

70.71 Violations.

AUTHORITY: §§ 70.1 to 70.71 issued under sec. 161, 68 Stat. 948; 42 U. S. C. 2201. Interpret or apply secs. 51, 53, 182, 183, 68 Stat. 929, 930, 953, 954. 42 U. S. C. 2071, 2073, 2232, 2233. For the purposes of sec. 223, 68 Stat. 958; 42 U. S. C. 2273, §§ 70.32 (a) (6) and 70.41 (a) issued under sec. 161b, 68 Stat. 948; 42 U. S. C. 2201 (b) and §§ 70.51 to 70.54, inclusive, issued under sec. 161p, 68 Stat. 950, 42 U. S. C. 2201 (p).

GENERAL PROVISIONS

§ 70.1 Purpose. (a) The regulations in this part establish procedures and criteria for the issuance of licenses to receive, possess, use and transfer special nuclear material and for the distribution by the Commission of special nuclear material to licensees; and establish and provide for the terms and conditions upon which the Commission will issue such licenses and distribute special nuclear material.

(b) The regulations contained in this part are issued pursuant to the Atomic Energy Act of 1954 (68 Stat. 919).

§ 70.2 Scope. Except as provided in §§ 70.11 to 70.13, inclusive, the regulations in this part apply to all persons in the United States.

§ 70.3 License requirements. No person subject to the regulations in this part shall receive, possess, use or transfer special nuclear material except as authorized in a license issued by the Commission pursuant to these regulations.

§ 70.4 Definitions. As used in this part,

(a) "Act" means the Atomic Energy Act of 1954 (68 Stat. 919), including any amendments thereto;

(b) "Atomic energy" means all forms of energy released in the course of nuclear fission or nuclear transformation.

(c) "Atomic weapon" means any device utilizing atomic energy, exclusive of the means for transporting or propelling the device (where such means is a separable and divisible part of the device), the principal purpose of which is for use as, or for development of, a weapon, a weapon prototype, or a weapon test device;

(d) "Commission" means the Atomic Energy Commission or its duly authorized representatives;

(e) "Common defense and security" means the common defense and security of the United States;

(f) "Government agency" means any executive department, commission, independent establishment, corporation,

wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government;

(g) "License", except where otherwise specified, means a license issued pursuant to the regulations in this part;

(h) "Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission, any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent or agency of the foregoing;

(i) "Produce", when used in relation to special nuclear material, means (1) to manufacture, make, produce, or refine special nuclear material; (2) to separate special nuclear material from other substances in which such material may be contained; or (3) to make or to produce new special nuclear material;

(j) "Research and development" means (1) theoretical analysis, exploration, or experimentation; or (2) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials, and processes;

(k) "Restricted Data" means all data concerning (1) design, manufacture or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to section 142 of the act;

(l) "Source material" means source material as defined in section 11 s. of the act and in the regulations contained in Part 40 of this chapter;

(m) "Special nuclear material" means (1) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the act, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing but does not include source material;

THE NATIONAL ARCHIVES
LITTERA SCRIPTA MANET
1934
OF THE UNITED STATES

FEDERAL REGISTER

VOLUME 22 NUMBER 176 Page 7223

Washington, Wednesday, September 11, 1957

TITLE 10—ATOMIC ENERGY

Chapter I—Atomic Energy Commission

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

On September 2, 1957, Public Law 256 (85th Congress) was signed by the President and became effective as an amendment to the Atomic Energy Act of 1954 (68 Stat. 919). Public Law 256 provides a means for protecting the public from financial loss from a nuclear incident.

To implement the indemnity provisions of the law the Atomic Energy Commission is issuing the following regulations which will be effective until definitive regulations are issued. In connection with the development of such more definitive regulations, the Commission intends to solicit the views of representatives of all affected groups and to furnish full opportunity for public comment.

At the present time there are no licenses in effect under section 103 of the act, and a relatively small number under section 104, authorizing operation of facilities. With one exception, all the licenses authorizing operation of facilities were issued under section 104 c. for the operation of nuclear reactors at relatively low power for research and development, or at nominal power for critical experiments. The exception is a license issued under section 104 b. for the operation of a reactor in California for the generation of electrical energy.

The regulation requires each licensee authorized to operate a nuclear reactor to maintain financial protection in the amount of \$150,000 per thousand kilowatts of thermal capacity authorized by his license. This amount is established as a temporary basis for determining financial protection required. Public Law 256, 85th Congress, requires financial protection equal to the total amount of private liability insurance available (expected to be approximately \$60,000,000) for all power reactors with a capacity of 100,000 electrical kilowatts or more. Such a relationship applied to

all reactors needs to be expressed in thermal capacity since many reactors will not be used in connection with the generation of electricity. The ratio of thermal to electrical capacity varies somewhat among different types of reactors. For the purpose of this regulation, this ratio has been assumed as four to one. Therefore, a capacity of 400,000 thermal kilowatts would require \$60,000,000 of private insurance, or \$150,000 per thousand kilowatts of thermal capacity.

While this formula is deemed appropriate during the interim period for power reactors and the larger research and test reactors, it is not meaningful for those operating at very low power which will produce correspondingly small amounts of fission products. The principal hazard and potential public liability arising from such reactors will be the possibility of exposing to radiation persons in the immediate vicinity of the reactor, such as students, trainees, visitors and persons working on cooperative research projects. There is a remote possibility that a number of such persons might be injured resulting in fairly substantial claims. This type of hazard is present in reactors of any size and the extent to which it varies with different reactors is not readily subject to measurement. For the purpose of this temporary regulation, therefore, it has been determined that \$250,000 is a minimum reasonable amount in view of the potential liability.

It is particularly important to note that the amounts of financial protection required by this regulation are not necessarily indicative of those that will be required by the more definitive regulations. The provisions of the latter for determination of these amounts will be based on more thorough consideration of such criteria as cost and terms of private insurance; type, size and location of the licensed activity and other factors pertaining to hazard; and the nature and purpose of the licensed activity, as provided by section 4 of Public Law 256. It should be emphasized, therefore, that the amounts of financial protection required by the more definitive regulations may vary substantially from those in

this regulation.

Preparation of the form of indemnity agreement which the Commission will enter into under Public Law 256 has not been completed. Section 140.18 of the regulation, however, is intended to make it clear that such agreements will be issued in due course; and that the Government's obligation to indemnify will take effect at the time established in the section and will not be affected by the time of execution or issuance of such agreements. This will assure maximum financial protection to the public and licensees.

Because these regulations are expected to be replaced at an early date by more definitive regulations, and because it is the purpose of these regulations to carry out the requirements of Public Law 256 with respect only to such types of licensees as are presently authorized to operate facilities, this part does not include many types of provisions which will be included in later revisions; and does not apply to certain kinds of licensees who may be subject to such future regulations.

In light of the foregoing, the Atomic Energy Commission has found that general notice of proposed rule-making and public procedure thereon are unnecessary and would be contrary to the public interest; and that good cause exists why these rules should be made effective after less than the customary 30 days' prior notice. These findings are based particularly on the desirability of making the Federal indemnity available on reasonable terms for protection of the public as promptly as is practicable.

The following rules are published as a document subject to codification, effective 15 days after publication in the FEDERAL REGISTER.

Sec.	
140.1	Purpose.
140.2	Scope.
140.3	Definitions.
140.4	Interpretations.
140.5	Communications.
140.11	Amount of financial protection required.
140.12	Types of financial protection.
140.13	Proof of financial protection.

1
AEC

ALASKA LEGISLATIVE COUNCIL

(Amended Substitute Senate Bill No. 339)

AN ACT

To enact sections 4163.01 to 4163.06, inclusive, of the Revised Code relative to the development and utilization of atomic energy for peaceful purposes; to provide for a co-ordinator of atomic development activities; to provide for a state atomic energy advisory board.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF OHIO:

SECTION 1. That sections 4163.01 to 4163.06, inclusive, of the Revised Code be enacted to read as follows:

Sec. 4163.01. As used in sections 4163.01 to 4163.05, inclusive, of the Revised Code:

(A) "Atomic energy" means all forms of energy released in the course of nuclear fission or nuclear transformation.

(B) "By-product material" means any radioactive material (except special nuclear material) yielded in, or made radioactive by exposure to the radiation incident to, the process of producing or utilizing special nuclear materials.

(C) "Production facility" means any equipment or device capable of the production of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or any important component part especially designed for such equipment or device.

(D) "Special nuclear material" means plutonium or uranium enriched in the isotope 233 or in the isotope 235, or any other material which the governor declares by order to be special nuclear material.

(E) "Utilization facility" means any equipment or device, except an atomic weapon, capable of making use of special nuclear materials in such quantity as to be of significance to the common defence and security, or in such manner as to affect the health and safety of the public, or peculiarly adapted for making use of atomic energy in such quantity as to be of significance to the common defence and security, or in such manner as to affect the health and safety of the public; or any important component part especially designed for such equipment or device.

(F) "Radiation" means gamma rays and X-rays, alpha and beta particles, high-speed electrons, neutrons, protons, and

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Regulations to Protect Against Accidental Conditions
of Criticality in the Shipment of Special Nuclear Material.

In September 1957, the Commission issued for public comment proposed regulations designed to assure that appropriate precautions are taken in connection with shipments of special nuclear material to protect against accidental conditions of criticality. Requirements to protect against other hazards in the shipment of such materials are prescribed in other Commission regulations and in regulations of other agencies having jurisdiction over means of transportation.

In view of some comments which interpreted the proposed regulation as requiring individual approvals for each shipment, an addition has been made to section 71.23(b) to make it clear that a licensee, or applicant, may propose shipping procedures for special nuclear material which, if approved, may be observed by him for any number of shipments falling within the scope of the approved procedures.

The Commission is collaborating with agencies having jurisdiction over means of transportation to develop standardized shipping procedures and container specifications for special nuclear material. The issuance of regulations specifying approved procedures and containers for such materials will eliminate the need for many specific approvals now required.

Pursuant to Part 70 (§70.12), carriers and warehousemen are exempt from special nuclear material licensing requirements to the extent that they transport or store special nuclear material in the regular course of carriage for another or storage incident thereto. The following proposed rule distinguishes between transportation by licensees and transportation by such unlicensed carriers. Where special nuclear material is to be transported by a licensee, prior Commission approval of proposed shipping procedures must be obtained for all shipments in excess of the quantities of special nuclear material specified in Appendix A. In the case of unlicensed carriers, there normally exists a possibility that a number of

ATOMIC ENERGY COMMISSION

[10 CFR Part 140]

FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

NOTICE OF PROPOSED RULE MAKING

On September 2, 1957, the Atomic Energy Act of 1954 was amended by Public Law 85-256. One of the new sections added to the Atomic Energy Act by that amendment was Section 170 containing financial protection requirements with respect to persons who hold, or have applied for, certain types of licenses under the Atomic Energy Act. In order to make the provisions of Public Law 85-256 effective as promptly as possible, the Atomic Energy Commission issued this Part on September 11, 1957, stating that the Regulations would be replaced at an early date by more definitive Regulations. The amendment set forth below is one of a series of amendments to Part 140 to be issued by the Commission for that purpose.

When Part 140 was issued the Commission had not prepared the form of indemnity agreements to be entered into with the licensee from whom financial protection is required under Section 170 of the Act. Recognizing this situation, Section 140.17 provides that the Commission will, in due course, execute and issue agreements of indemnity with licensees from whom financial protection is required; and that such agreements would contain such provisions as are required by law and such additional provisions as may be incorporated therein pursuant to Commission Regulations. The section provides also that such agreements, when entered into with any licensee, would be effective either on the effective date of Part 140 or on the effective date of the license authorizing operation of a nuclear reactor, whichever is later. The following amendment contains the form of an indemnity agreement which the Commission would enter into with licensees under Section 140.17 of this Part. As indicated in the notes inserted in the form of agreement, certain provisions are inapplicable to certain types of licensees and would not be used in such cases. It may also be that cases will arise in which it will be appropriate to modify some of the provisions of the form or to include other provisions. For the most part, such provisions will have to be developed as situations arise in which they are required. It is anticipated that any such changes will be effected either by rule or by appropriate procedures in particular licensing proceedings in order that interested persons may have opportunity to participate.

Part 140 and the following proposed amendments do not contain requirements as to the demonstrations which should be made by insurance companies whose policies are furnished as proof of financial protection, or by licensees furnishing proof of financial protection in the form of their own resources, that such companies and licensees will in fact be able to satisfy claims covered by the proposed agreement. These matters will be covered in future amendments to this Part.

HYDROPOWER FOR ALASKA

The Flood Control Act of 1948 directed the Corps of Engineers to make a comprehensive study of the water resources of Alaska.

Under that authority, seven reports have been issued and the eighth is scheduled for completion in December 1958.

The following summary reflects the preliminary evaluation of hydroelectric power contained in the reports. In some instances this information has been revised to reflect additional map data and current thinking.

SOUTHEASTERN ALASKA

<u>Name</u>	<u>Regulated Flow CFS</u>	<u>Head Feet</u>	<u>Prime Power KW</u>	<u>Installed Capacity KW</u>
Mirror, Ella & Manzanita Lakes	844	300	14,500	29,600
Swan Lake	420	310	7,630	15,000
Lake Grace	384	455	11,000	22,000
Green Lake	132	320	2,400	4,800
Blue Lake ^{1/}	390	350	7,400	15,000
Takatz Lake	128	917	7,600	15,000
Cascade Creek	183	1,487	16,900	34,000
Scenery Creek	154	970	9,000	18,000
Crater Lake	170	1,040	11,000	22,000
Long Lake	408	820	21,000	42,000
Speel River	1,770	378	36,000	72,000
Dorothy Lake	98	2,418	15,000	28,000
71 additional small sites			<u>235,900</u>	<u>471,800</u>
Total			395,330	789,200
Rounded			400,000	790,000

Neither the Taiya Project, proposing diversion of the Canadian Yukon River headwaters to tidewater in Alaska, nor the alternative Canadian Sloko Lake project has been studied by the Corps of Engineers.

^{1/} License for construction of Federal Power Commission Project No. 2230, by the City of Sitka. Installation, initially, 6,000 KW; later another 3,000 KW unit, total 9,000 KW.

elevation 930.

CONNECTICUT

COORDINATION OF ATOMIC ENERGY
DEVELOPMENT ACTIVITIES

Public Act No. 46, Acts of 1955, effective October 1, 1955; as amended
by Public Act No. 4, Acts of 1957, effective October 1, 1957

[§ 17,111]

AN ACT coordinating development and regulatory activities relating to the peaceful uses of atomic energy.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

[POLICY OF STATE]

[§ 17,112]

Section 1. (a) The state of Connecticut endorses the action of the Congress of the United States in enacting the Atomic Energy Act of 1954 to institute a program to encourage the widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public; and therefore declares the policy of the state to be (1) to cooperate actively in the program thus instituted; and (2) to the extent that the regulation of special nuclear materials and by-products materials, of production facilities and utilization facilities and of persons operating such facilities may be within the jurisdiction of the state, to provide for the exercise of the state's regulatory authority so as to conform, as nearly as may be, to the Atomic Energy Act of 1954 and regulations issued thereunder, to the end that there may, in effect, be a single harmonious system of regulation within the state. (b) The state of Connecticut recognizes that the development of industries producing or utilizing atomic energy may result in new conditions calling for changes in the laws of the state and in regulations issued thereunder with respect to health and safety, working conditions, workmen's compensation, transportation, public utilities, life, health, accident, fire and casualty insurance, the conservation of natural resources, including wild life, and the protection of streams, rivers and airspace from pollution, and therefore declares the policy of the state to be (1) to adapt its laws and regulations to meet the new conditions in

ways that will encourage the healthy development of industries producing or utilizing atomic energy while at the same time protecting the public interest; and (2) to initiate continuing studies of the need for changes in the relevant laws and regulations of the state by the respective agencies of the state which are responsible for their administration; and (3) to assure the coordination of the studies thus undertaken, particularly with other atomic industrial development activities of the state and with the development and regulatory activities of other states and of the government of the United States.

[DEFINITIONS]

[§ 17,113]

Sec. 2. As used in this act: (a) "Atomic energy" means all forms of energy released in the course of nuclear fission or nuclear transformation; (b) "by-product material" means any radioactive materials, except special nuclear materials, yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear materials; (c) "production facility" means (1) any equipment or device capable of the production of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or (2) any important component part especially designed for such equipment or device; (d) "special nuclear material" means (1) plutonium and uranium enriched in the isotope 233 or in the isotope 235, and any other material which the governor declares by order to be special nuclear material after the United States Atomic Energy Commission has determined the material to be such; or (2) any material artificially enriched by any of the foregoing; (e) "utilization facility" means (1) any equipment or device, except an atomic weapon, capable of making use of special nuclear materials in such quantity as to be of significance to the common de-

CONNECTICUT

SEC. 181-1-287 OF CHAPTER III (SPECIAL OCCUPATIONS, TRADES,
PROFESSIONS AND HOSPITALS) OF THE SANITARY
CODE OF THE STATE OF CONNECTICUT

RADIATION SOURCES AND RADIOACTIVE MATERIALS

Adopted by the State Department of Health and the
Public Health Council, October 4, 1957

[§ 17,791]

Sec. 181-1-287.

A. Scope.

(a) This regulation shall apply to the manufacture, use, storage, handling, transportation, and disposal of all sources of ionizing radiation and all radioactive materials except as specifically exempted herein.

(b) For the purposes of this regulation, sources of ionizing radiation and radioactive materials used by, or in the possession of, an employee within the scope of his duties shall be considered to be in possession of the employer.

[§ 17,792]

B. Definitions.

For the purposes of this regulation, the following definitions shall apply:

Department shall mean the state department of health.

Ionizing radiation shall include gamma rays, x-rays, alpha and beta particles, neutrons, protons, high-speed electrons and other atomic or nuclear particles, but not sound or radio waves or light of wave lengths ranging from infra-red to ultra-violet, inclusive.

Radiation shall mean ionizing radiation.

Radioactive materials shall include any materials, solid, liquid or gas that emit ionizing radiation spontaneously.

Installation shall mean a location where, for a period of more than thirty (30) days, one or more sources of radiation are used, operated or stored.

Mobile source shall mean a source of radiation used or operated outside an installation.

Owner of an installation shall mean the person or organization having by law the administrative control of a source of radiation located within the confines of the installation, whether as proprietor, lessee, contractor or otherwise.

Atomic Energy Law Reports

Owner of a mobile source shall mean the person or organization having by law the administrative control thereof, whether as proprietor, lessee, contractor or otherwise.

Scientific and technical terms not herein specifically defined shall be used in accordance with the definitions in recommendations of the National Committee on Radiation Protection as published in handbooks of the National Bureau of Standards.

[§ 17,793]

C. Registration Requirements.

(a) The owner of every installation or mobile source not exempted by the provisions of section D of this regulation shall register the same, or cause it to be registered, with the state department of health, and such registration shall be on forms provided for this purpose by the department.

(b) Existing installations and mobile sources shall be registered within ninety (90) days after the effective date of this regulation and every new installation and mobile source shall be registered before it is placed in operation. Each such owner of an installation or mobile source must re-register such installation or mobile source each January and in addition at any time when any increase is contemplated in the number of sources, the source strength, the output or the types of radiation energy involved.

[§ 17,794]

D. Registration Exemptions.

The following activities are exempt from registration:

(a) The possession or operation of devices emitting x-rays for diagnostic or therapeutic purposes by or under the supervision of a person or persons licensed to practice medicine, surgery, osteopathy, chiropractic, natureopathy, dentistry, chiropody, or veterinary medicine and surgery, as authorized by law.

(b) The production, transportation, storage, use and disposal of naturally occurring

[§ 17,794]

ATOMIC ENERGY LAWS

of the

STATE OF MAINE

AUGUST 28, 1957



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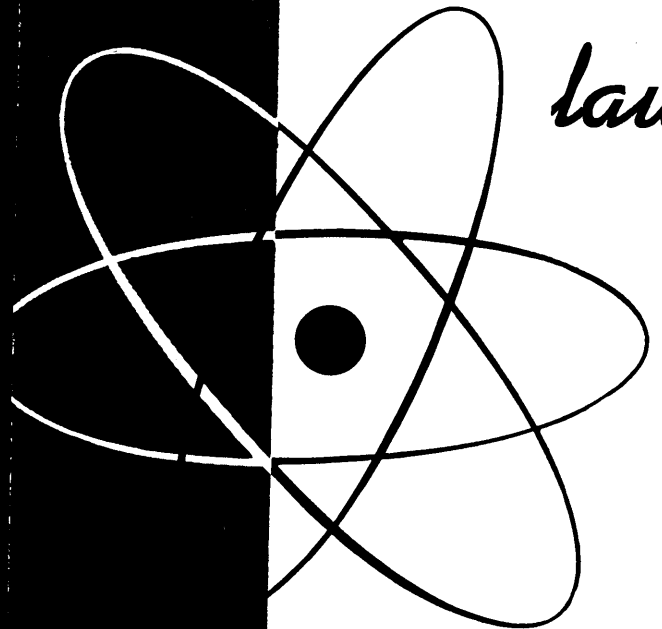
ALASKA LEGISLATIVE COUNCIL
JUNEAU, ALASKA

OFFICE OF THE ATTORNEY GENERAL

FILE COPY

Brief Guide to

*Ohio's
atom
law*



State of Ohio
C. WILLIAM O'NEILL
Governor

Ohio's New Atom Law

WITH the passage of Senate Bill No. 339 during the 102nd Ohio General Assembly — Ohio has placed into motion the processes necessary to study and to meet the social and governmental implications which challenge any people in the dawn of an atomic age.

Because of the farsighted thinking of Ohio's legislators — their realization of the complexities and difficulties which are inherent for government when any new way of life is presented, especially the peaceful applications of atomic energy—Ohio is truly a leader among the states in this new role for state government. To date, only 29 of the states have formed any sort of a committee to deal with the problems of atomic energy and only 13 have either appointed or authorized a person in state government to be responsible for this new function. Eight of the states have major legislation now pending for they realize only too well that with the passing of each month and each year, this new role for state government promises to become more and more complex.

Before the year 1954 those who possessed fissionable material or operated atomic energy facilities did so as contractors or employees of the United States Atomic Energy Commission. Then, with the passage of the Atomic Energy Act of 1954, vast quantities of nuclear materials were made available to private users or owners of facilities which would produce or utilize the material. This did much

by
WILLIAM H. EELLS
Coordinator of Atomic
Development Activities
State of Ohio



to stimulate the use of atomic energy in research, medicine and industry, even though ownership of such materials is still reserved to the federal government.

Accompanying this shift to private users are new problems and responsibilities for the states and local governments. No state can ignore the im-

plications which a nuclear age is having on the processes of these units of government. Certainly the time is at hand for each state to take a realistic look at its position and what it needs to do to implement the demands and encourage the optimum in the development of the peaceful applications of atomic energy.

Following a recent visit I had with the Chairman of the Atomic Energy Commission, I left Washington with the distinct impression that, while the federal government still pre-empts the state for the most part in this field, more administrative responsibilities will be turned over or shared with the states in the very near future. This is certainly the time to gain what I would call "launching speed" in organizing our governmental machinery to further the peaceful development of the atom and at the same time take the precautions needed to protect the health of our citizenry.

Being one of the largest industrial states in the Union, Ohio felt the impact of the passage of the Atomic Energy Act of 1954. Shortly after I took over my new assignment with the State of Ohio, it was not uncommon for me, as I walked down the streets of my home town of Delaware, to have persons inquire whether I would now be moving to Pike County. Actually many Ohioans are surprised to find that we have a total of 312 licenses which have been issued by the A.E.C. for nuclear activity in Ohio to 102 industrial firms, 49 medical in-

Ohio Cities And Villages

(R945, S531)

An Act To Provide For The Development And Regulatory Activities Relating To The Peaceful Uses Of Atomic Energy.

Be it enacted by the General Assembly of the State of South Carolina :

SECTION 1. The State of South Carolina endorses the action of the Congress of the United States in enacting the Atomic Energy Act of 1954 to institute a program to encourage the widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public ; and therefore declares the policy of the State to be :

First. To cooperate actively in the program thus instituted : and

Second. To the extent that the regulation of special nuclear materials and by-product materials, of production facilities and utilization facilities, and of persons operating such facilities may be within the jurisdiction of the State, to provide for the exercise of the State's regulatory authority so as to conform, as nearly as may be, to the Atomic Energy Act of 1954 and regulations issued thereunder, to the end that there may, in effect, be a single harmonious system of regulation within the State.

SECTION 2. The State of South Carolina recognizes that the development of industries producing or utilizing atomic energy may result in new conditions calling for changes in many of the laws of the State and in regulations issued thereunder with respect to health and safety, working conditions, workmen's compensation, transportation, public utilities, life, health, accident, fire and casualty insurance, the conservation of natural resources, including wildlife, and the protection of streams, rivers and airspace from pollution, and therefore declares the policy of the State to be :

First. To adapt its laws and regulations to meet the new conditions in ways that will encourage the healthy development of industries producing or utilizing atomic energy while at the same time protecting the public interest ; and

Second. To initiate continuing studies of the need for changes in the relevant laws and regulations of the State by the respective departments and agencies of the State which are responsible for their administration ; and

Third. To assure the co-ordination of the studies thus undertaken, particularly with other atomic industrial development activities of the State and with the development and regulatory activities of other States and of the Government of the United States.