

WATER  
RESOURCE  
BOARD

# Alaska State Legislature

BETTYE FAHRENKAMP, Chairman  
ROBERT H. ZIEGLER, SR., Vice Chairman  
DICK ELIASON  
PAUL FISCHER  
VIC FISCHER  
BOB MULCAHY  
ARLISS STURGULEWSKI



POUCH V  
STATE CAPITAL  
JUNEAU, ALASKA 99811  
(907) 465-3834  
(907) 465-3835

## Senate

### Committee on Resources

#### MINUTES

March 14, 1984  
3:06 pm

Beltz Room  
Room 211, Capitol

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#### MEMBERS PRESENT

Senator Fahrenkamp, Chairman  
Senator Ziegler, Vice Chairman  
Senator Eliason  
Senator Paul Fischer  
Senator Vic Fischer  
Senator Mulcahy  
Senator Sturgulewski

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#### CALENDAR

SB 301, An Act establishing a furbearer management fund; and providing for an effective date.

Presentation by Alaska Water Resources Board.

SB 399, An Act relating to trespassing and posting of land.

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#### SB 301

Senator Sturgulewski moved SB 301 from committee with individual recommendations. There was no objection.

#### Alaska Water Resources Board

Esther Wunnicke, Commissioner, Department of Natural Resources, introduced members of the Board.

David Vanderbrink, Alaska Water Resources Board, explained that the Board consists of six public representatives and the Commissioners of the Departments of Environmental Conservation and Natural Resources.

Tom Meachum, Water Resources Board, discussed the need for legislation that would outline methods for adjudicating federally reserved water rights.

Peg Tileston, Water Resources Board, informed the Committee of the funding needs of the oil spill contingency fund and of the Water Board itself.

Randy Wanamaker, Water Resources Board, encouraged the State to join the Western States Water Council.

Larry Dutton, Water Policies and Procedures Section, Division of Land and Water Management, Department of Natural Resources clarified that the Western States Water Council is an arm of the Western States Governor's Association and discussed the fees for membership.

Bill Bivins, Federal Energy Management Agency, Dam Safety Division, recommended that the State establish a dam safety program to become eligible for federal funds and to reduce insurance costs.

Esther Wunnicke, Commissioner, explained that DNR has responsibility for dam safety. An inventory funded in FY 84 found at least 10 high hazard dams that need attention.

#### SB 399

Senator Faiks explained that the bill addresses the problems of unwitting trespassers on unposted land by requiring that land be posted with signs containing specific information signs to have certain information.

Gayle Horetski, Assistant Attorney General, answered questions on the State's liability under existing law.

The meeting adjourned at 4:04 pm.

NOTE REGARDING THE FOLLOWING FRAME(S) ON MICROFILM:  
COMPLETE DOCUMENT IS AVAILABLE IN ORIGINAL FILES.  
TITLE PAGE ONLY HAS BEEN FILMED.

## Calendar No. 625

98TH CONGRESS  
1ST SESSION**S. 1739**

[Report No. 98-340]

To authorize the United States Army Corps of Engineers to construct various projects for improvements to rivers and harbors of the United States, and for other purposes.

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 IN THE SENATE OF THE UNITED STATES

AUGUST 3 (legislative day, AUGUST 1) 1983

Mr. ABDNOR (for himself and Mr. MOYNIHAN) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

NOVEMBER 17 (legislative day, NOVEMBER 14), 1983

Reported by Mr. ABDNOR, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italic*]

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**A BILL**

To authorize the United States Army Corps of Engineers to construct various projects for improvements to rivers and harbors of the United States, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
 2 *tives of the United States of America in Congress assembled,*  
 3 That this Act may be cited as the "~~Water Resources Devel-~~  
 4 ~~opment Act of 1983~~".

# MEMORANDUM

# State of Alaska

TO: The Honorable Bill Sheffield  
Governor

DATE: April 2, 1984

FILE NO:

TELEPHONE NO: 465-2400

FROM: Esther C. Wunnicke  
Commissioner  
Department of Natural Resources

SUBJECT: Water Board

*Handwritten:*  
D-...  
hearing file

The Alaska Water Resources Board, of which I am statutorily designated Secretary, has forwarded to me the texts of three of seven resolutions that were passed in the March meeting. I have attached these complete resolutions, with a synopsis of them and the four that are yet to be received.

The Board's major steps, in my view, were to recommend an increase in dam safety funding (as proposed in your FY 85 operating budget) and to recommend that the State join the Western States Water Council as a full member, to better protect State interests in dealing with the federal government on water issues. The Board met with the Senate Resources Committee and held an open, thorough discussion of water issues in Alaska. Partly in response to legislators' concerns, the Board has tentatively planned to focus on water quality/stream reclassification issues at its next meeting, scheduled for October in Fairbanks.

I know the members of the Board were very appreciative of your taking time to meet with them during their meeting here in Juneau. Your attention to water issues is a milestone in Alaska resource management. As you know, water issues are increasingly significant to Alaskans, and planning and preparation at this stage will prevent future problems.

Attachments

SUMMARY  
ALASKA WATER RESOURCES BOARD  
RESOLUTIONS PASSED AT MARCH, 1984 MEETING

The Water Resources Board, meeting in Juneau, passed seven resolutions in March, 1984. The major theme of the meeting was the State's dam safety program. Guest speakers included William Bivins, dam safety chief for the Federal Emergency Management Agency. The resolutions are summarized below.

At its next meeting (October 1984 in Fairbanks) the Board will be focusing on the issues in water quality standards and stream reclassification in Alaska.

Resolution 84-1: Dam Safety (text attached)

Alaska's dams, valuable for a variety of uses and resource management considerations, can pose a threat to safety, health, and property. The Board recommends that the Legislature increase funding for dam safety and restore \$200,000 cut by the House Finance Committee from the Governor's proposed budget for FY 85.

Resolution 84-2: Oil Spill Contingency Fund (text attached)

To protect its resources, the State must take an active role in cleaning up oil spills in Alaska. Funds in the Contingency Fund are dwindling. The Board recommends replenishment of the Fund and annual appropriations to keep it at its original level of \$1 million.

Resolution 84-3: Western States Water Council (text attached)

Alaska's concerns, and involvement, with the federal government's management and constraints in water issues compel the State to improve its understanding of federal policies and increase its presence in the national policy forum. The Board recommends that the State join the Western States Water Council as a full member.

Resolution to put dam safety program in statute (not yet conveyed)

The Board recommends that DNR draft legislation to provide for a dam safety program, in the context of the State's dam safety responsibility under AS 46.15.080(2).

Resolution on proposed water permit fees (not yet conveyed)

The Board asks the Commissioner to consider the potential negative impacts of assessing a \$50 fee for water rights applications.

Resolution on Potter Marsh sewer line (not yet conveyed)

The Board recommends that the Anchorage Assembly receive full briefings and information before funding a sewer line project above Potter Marsh.

Resolution on basinwide adjudication legislation (not yet conveyed)

The Board asks the Commissioner of DNR to prepare legislation for a basinwide water rights adjudication process.

Esther C. Wunnicke,  
Executive Secretary  
March 30, 1984

Resolution No. 84-1

**FUNDING DAM SAFETY**

Dams contribute to the efficient management and conservation of Alaska's water resources and enhance the economic well-being of our citizens. However, inadequately constructed, operated, or maintained non-federal dams, many of which are decades old, can pose a serious threat to public and private property and the health and safety of our citizens.

Dam safety is a subject of state and national interest. State responsibility for the adequacy of the construction of water diversions (dams) rests in AS 46.15.080(2). The administration, in recognition of the importance of Alaska's dam safety program, requested \$416,300 in the Department of Natural Resources' budget for Fiscal Year 1985. It has been brought to our attention that the House Finance Committee has reduced the department funding for this program \$200,000.

**THE ALASKA WATER RESOURCES BOARD** believes that the importance of this program warrants the restoration of necessary funds (\$200,000) to achieve the level of funding requested by the administration in Fiscal Year '85 for dam safety program purposes.

ADOPTED this 14th day of March, 1984

ALASKA WATER RESOURCES BOARD

181 *David Vanderbrink*

David Vanderbrink, Chairman

**OIL SPILL CONTINGENCY FUND**

HB 205, Prevention and Control of Oil Pollution, was passed in 1980 to protect Alaska from the damage which could result from an oil spill.

An oil spill may cause both long and short term damage to the environment, the beauty of the state, and to owners and users of affected property.

To the maximum extent possible, prompt and adequate containment and clean-up of oil spills is the responsibility of the discharger; however, due to weather conditions, logistic constraints, lack of equipment, and experienced labor; prompt containment is not always possible. Therefore, it was imperative that the state take an active role in this program to guarantee prompt clean-up of oil spills and to assure repayment of costs incurred as a result of the oil spills.

As a result of HB 205, the Oil Spill Contingency Fund was created in 1980 and funded for one million dollars. This fund enables the Department of Environmental Conservation (DEC) to facilitate coordinated and effective oil spill response in the state. The Contingency Fund was replenished with \$250,000 in 1981, but since that time, no new money has been added to the fund.

Due to numerous oil spills throughout the state since 1980, and subsequent expenditures incurred from cleaning up the spills, the balance of the fund is dangerously low. By the end of this Fiscal Year, barring any new spills, the balance of the fund will be approximately \$263,000. The total expenditures by DEC through the Contingency Fund by the end of Fiscal Year 1984 will be approximately \$987,000. Through fines, penalties and federal reimbursement programs, DEC has collected \$469,623 and has a pending reimbursement for \$563,397 for a total of \$1,033,021. All monies collected, however, go into the General Fund of the State of Alaska.

**THE ALASKA WATER RESOURCES BOARD** urges the Governor and the Legislature to replenish the Oil Spill Contingency Fund back up to the original amount of one million dollars and provide provisions in the budgeting process to replenish the Oil Spill Contingency Fund on an annual basis.

ADOPTED this 14th day of March, 1984

ALASKA WATER RESOURCES BOARD

1s/ *David Vanderbrink*

David Vanderbrink, Chairman

**WESTERN STATES WATER COUNCIL**

The Western States Water Council was formed in 1965 under the Western Governors' Conference to accomplish effective cooperation among western states. The functions of the Council include preparing criteria for regional development planning of water resources, undertaking continuing review of large-scale interstate and interbasin water development projects, investigating and reviewing water related matters, and protecting and furthering state and local interests concerning water resources of the western states.

The Council; as a collective voice for the 12 western states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington, and Wyoming; has a significant and powerful influence on congressional legislation and on the operations of various federal agencies in dealing with the western states on water related issues.

Alaska has been involved as an observer at Council meetings since 1978 and as an associate member since 1980.

Full membership on the council is needed to give Alaska the right to vote on issues before the council. But possibly even more important is the opportunity to influence what issues the Council will address, the direction the Council will take in pursuing those issues, and the Council's final position on a particular issue through the right of representation of the Council's standing committees.

Operations of the Western States Water Council are carried out by four standing committees: the executive committee, the legal committee, the water quality committee, and the water resources committee. Each full-member state is entitled to three representatives, appointed by the governor, to the legal, water quality, and water resources committees. These representatives would logically and respectively come from the Departments of Law, Environmental Conservation, and Natural Resources. Membership of the executive committee consists of one of the regular representatives from each state, who decide amongst themselves which one of them will serve on this committee.

Full membership for Alaska on the Council is becoming increasingly critical as development and growth result in ever greater demands on Alaska's water resources and in the associated problems of local water shortages, contamination, and conflicting water rights. Problems continually being addressed by the Western States Water Council involving legislation or issues such as the Clean Water Act, the Safe Drinking Water Act, federal reserve water rights, placer mining water use, and hydroelectric development are likewise being addressed by Alaska. For example, membership on the Council may be the best means to effect changes in EPA water quality standards that have recently become more stringent and are an immediate concern of Alaska's placer mining industry. These problems represent major issues facing Alaska today. Alaska would benefit from full membership on the Council through being able to influence the Council's efforts in dealing with these issues and by adding its voice to those of the other western states.

Each state contributes a one time initial membership fee of \$15,000, payable over three years; and an annual membership fee (assessed at \$19,500 for Fiscal Year 1984-85) which is expended to influence local, regional, and national water policies and legislation.

**THE ALASKA WATER RESOURCES BOARD** believes that benefits to Alaska from full membership on the Western States Water Council would far outweigh the cost of dues and, therefore, recommends:

- a. The Governor request a special appropriation in the amount of \$24,500 in Fiscal Year 1985, which includes one-third of the initial membership fee (\$5,000) and annual dues (\$19,500) for 1985.
- b. The Legislature, through its House and Senate Resources and Finance Committees, support Alaska's membership on the Western States Water Council and approve a special appropriation of \$24,500 in Fiscal Year 1985, which includes one-third of the initial membership fee (\$5,000) and annual dues (\$19,500) for 1985.

ADOPTED this 14th day of March, 1984

ALASKA WATER RESOURCES BOARD

181 *David Vanderbrink*

David Vanderbrink, Chairman

# STATE OF ALASKA

## DEPARTMENT OF NATURAL RESOURCES

OFFICE OF THE COMMISSIONER

BILL SHEFFIELD, GOVERNOR

POUCH M  
JUNEAU, ALASKA 99811  
PHONE: 907-465-2400

March 12, 1984

The Honorable Bettye Fahrenkamp  
Alaska State Senate  
Pouch V  
Juneau, Alaska 99811

Dear Senator Fahrenkamp:

As Executive Secretary to the Alaska Water Resources Board, which will meet with the Senate Resources Committee on Wednesday, March 14, I am enclosing information about the Board, its membership, and its activities. The Board is holding a formal meeting in Juneau this week that Legislators may wish to attend; an agenda for the meeting is also enclosed.

The broad range of water policy issues facing western states, including Alaska, demands the close attention of policymakers. In Alaska, we have a model Water Use Act, and strong instream flow laws for which the Department has recently promulgated regulations. We are soon to begin conducting basinwide adjudication of water rights in areas where new user demands have grown beyond our expectations, and I expect that we will see many more water resource policy challenges in coming years as Alaska's population continues to grow rapidly.

I hope that you and other members of the Committee will contact me if further information would be useful. Thank you for providing time to meet with the Water Board.

Sincerely,



Esther C. Wunnicke  
Commissioner

ALASKA WATER RESOURCES BOARD  
MARCH 13 & 14, 1984  
JUNEAU, ALASKA  
CENTENNIAL HALL - HAMMOND ROOM

AGENDA

Tuesday, March 13

- 8:00 - 8:30 Mug Up!
- 8:30 - 8:45 Call to Order and remarks  
David Vanderbrink, Chairman
- 8:45 - 9:00 Opening Remarks  
Esther Wummicke, Commissioner, DNR
- 9:00 - 10:30 Federal Dam Safety Overview  
William S. Bivins, Federal Emergency Management Agency  
- Federal Legislation on Dam Safety  
- Federal Dam Safety Programs and Funding  
- Federal-State Interaction  
- Other State Dam Safety Programs  
- Alaska's Dam Safety Program Critique
- 10:30 - 10:50 Break
- 10:50 - 11:15 Corps of Engineers  
Harlen Moore  
- Historical Perspective of Dam Safety in Alaska  
- Present Involvement of Corps in Alaskan Dam Safety
- 11:15 - 12:00 Alaska Power Authority  
- Hydroelectric Power Projects Update  
- Dam Safety in APA Projects  
- Bonding and Insurance
- 12:00 - 1:30 Lunch - Buffet at the Prospector
- 2:00 - 2:15 Meeting with Governor Sheffield, Governor's Office
- 2:45 - 3:00 DLWM - Water Management Update  
L.A. Lutton, Chief, Water Section  
- Western States Water Council Meeting  
- Accomplishments
- 3:00 - 3:15 Break
- 3:15 - 3:45 Permit Reform  
James K. Barnett, Deputy Commissioner
- 3:45 - 5:30 DGGS - USGS Program Update  
- AWARE Revised  
Bill Long, Ray George

(continued)

3:45 - 5:30 DGGG - USGS Program Update (continued)  
 - Big Lake Study  
     George McCoy  
 - Delta Creek Hydrologic Study  
     Steve Mack  
 - Potter Marsh Hydrologic Study  
     Jim Munter

5:30 - 7:00 Dinner Break

7:30 - 9:00 Public Comment Session

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Wednesday, March 14, 1984

8:00 - 8:30 Mug Up!

8:30 - 10:30 DEC - Agency Update  
     Dan Easton  
     - 205(j) Projects  
     - Changes to the Water Quality Standards  
     - Nolan Creek Reclassification  
     - Other

10:30 - 10:45 Break

10:45 - 12:00 Basinwide Adjudication - Federal Reserve Rights  
     - Indian River Summary  
         Andy Pekovich - SEDO  
     - Evaluation and Status of Existing Statutes  
     - Proposed Basinwide Legislation  
         Mike Frank, Assistant Attorney General

12:00 - 1:30 Lunch

1:30 - 2:00 Kenai River Task Force Report  
     Neil Johannsen, Director of Parks

2:00 - 2:15 Break

2:15 - 2:45 Planning Session for Joint Meeting

3:00 - 3:45 Joint Meeting with Senate & House Resource  
     Sub-committees

4:00 - Work Session

# STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

## WATER RESOURCES BOARD

555 Cordova Street  
Pouch 7-005  
Anchorage, AK 99510  
(907) 276-2653

### Alaska Water Resources Board

Established pursuant to AS 46.15.190-240

#### Addresses of Appointees and Officials January 1984

Ms. Peg Tileston  
4780 Cambridge Way  
Anchorage, Alaska 99503  
Home: 561-0540  
Term ends: 2/21/84  
Occupation: Researcher and Writer

Mr. Cyril (Randy) Wanamaker  
Sealaska Corporation  
One Sealaska Plaza  
Juneau, Alaska 99801  
Office: 586-1512  
Term ends: 2/21/85  
Occupation: Geologist

Mr. Tom Meacham  
810 N Street  
Anchorage, Alaska 99501  
Phone: 276-6100  
Term ends: 2/21/86  
Occupation: Attorney

Commissioner (or his designee)  
Department of Environmental  
Conservation  
Pouch O  
Juneau, Alaska 99811  
Office: 465-2600  
(ex-officio member)

Mr. David Vanderbrink  
P.O. Box 1236  
Homer, Alaska 99603  
Office: 235-8835  
Home: 235-8784  
Term ends: 2/21/85  
Occupation: Commercial Fisherman

Commissioner (or his designee)  
Dept. of Natural Resources  
Pouch M  
Juneau, Alaska 99811  
Office: 465-2400  
(executive secretary)

Mr. Wayne Westberg  
Star Route A, Box 1559  
Anchorage, Alaska 99502  
Office: 349-8535  
Term ends: 2/21/85  
Occupation: Well Driller

Mr. Ralph Stemp, Esq.  
SRA Box 1436G  
Home: 276-4404  
Anchorage, Alaska 99502  
Term ends: 2/21/86  
Occupation: Attorney

Alaska Water Resources Board  
Summary of Activities

The Alaska Water Resources Board was created by Article 3 of AS 46.15, the Water Use Act of 1966. The Board serves as an advisory group to the Governor on all matters relating to the use and appropriation of water in the State of Alaska.

The Board covers a wide range of topics at its meetings. In general, a presentation on a topic is given by an agency, industry or interest group representative, or member of the public. Action taken by the Board is usually in the form of a resolution to the governor, but may occasionally be a letter sent to an appropriate agency. The Board may also informally discuss problems with agency representatives.

Currently the Board is meeting two times per year. The required annual Juneau meeting is held in the Spring when a principle activity of the Board has been to review pending or proposed legislation affecting water resources. The Board attempts to hold the other meetings in different parts of the state in order to be better in touch with the regional water problems and to afford residents of all areas of the state an opportunity to voice their water resources concerns to the Board.

Accomplishments:

- The Board was instrumental through a resolution in establishing a permits clearinghouse. This was done under the Department of Environmental Conservation.
- Fourteen of the 30 resolutions passed in the last five years either supported or opposed legislation that was reviewed by the Board.
- In two resolutions and several letters the Board has continued to urge the Division of Land and Water Management to advertise throughout the state the need for individuals to file for water rights.
- The Board has strongly urged the governor to join the Western States Water Council as a full voting member. As a result we have attained associate member status but Alaska still cannot have significant influence or vote on any critical issues brought before the Council.
- In one resolution and several letters the Board has urged action on the basinwide adjudication of the Ship Creek drainage. A basinwide adjudication such as Ship Creek which involves federal reserve rights is a major task that involves expertise and a great deal of involvement from the Department of Law. Federal reserved water rights must be adjudicated in court. Without adequate funding and personnel a basinwide adjudication cannot be accomplished.

Alaska Water Resources Board  
Summary of Activities  
Page Two

- Through resolution and follow-up letters the Board urged a job series for Hydrologists and Water Resource Specialists be created. The Hydrologist series has been implemented and the Water Resource Specialist has been incorporated into the revamping of the land management officer series which is now the Natural Resource Management series. This new series has a number of speciality categories including water resource management. This will enable DNR to fill vacancies with qualified people having water resource experience. All of the Divisions of the Department of Natural Resources have benefited by using these specialty categories in the Natural Resource Management series.
  
- The Board has addressed itself to matters relating to administrative efficiency on the part of agencies dealing with the public and to policy matters that often cut across agency lines.

## Alaska Water Management Issues

### DAM SAFETY

The State of Alaska began developing a dam safety program in the mid-seventies in anticipation of the Corps of Engineers turning over dam inspection responsibility for non-federal dams to the state.

In 1979 the Department of Natural Resources (DNR) assumed responsibility for the Non-Federal Dam Inventory. The dam inventory was completed in 1981 classifying 175 dams according to the downstream hazard. Of these 175 dams, 122 are 10' or more in height or store 50 or more acre feet. The inventory identified 26 high hazard dams, 18 significant hazard dams, and 78 low hazard dams, of the 122 dams mentioned above.

Upon completion of the Dam Inventory, DNR assumed the responsibility of inspecting non-federal dams in Alaska.

DNR's Dam Safety Program is concerned with reviewing and permitting of new dams construction or modification and evaluating the operation, maintenance, and condition of the dams on a periodic basis.

The purpose of the program is to protect life, health, and property of the people and the State's natural resources.

This fledgling state program has received new impetus from the state legislature through an increase in appropriation from less than \$20,000 in Fiscal Year '83 to more than \$130,000 in Fiscal Year '84.

Most of the dams identified on the inventory have not had a formal inspection in the last four years and their condition is unknown. Some of the structures in the highest hazard category will be inspected this upcoming field season.

## FEDERAL RESERVE RIGHTS/BASIN WIDE ADJUDICATION

The federal government is vested with reserved water rights on numerous federal land withdrawals in Alaska. Federal legislation establishing the reserves specifies the purposes of the reserved water rights and the enacting date establishes their priority date. These water rights include both diversionary and instream uses.

Of the 367.7 million acres in Alaska, federal reserve water rights exist on almost 60 percent of the land mass or over 215 million acres. From a miniscule 2.5 million acres of military land, to 50 and 75 million acres of land for national parks and fish and wildlife refuges respectively, certainly federal reserve water rights issues and problems have the potential to be large as well as complex.

In order for DNR to adequately manage the state's water and adjudicate water rights, it is desirable to have the federal reserved water rights in the state inventoried, then quantified by appropriate federal management agencies. The state can then integrate federal water rights with state administratively adjudicated water rights. The federal government has indicated it will await requests from the states before initiating quantification of federal reserved water rights. To date, no quantification nor adjudication of these water rights has occurred, however, the State of Alaska is preparing to undertake the first basin wide adjudication at Sitka's Indian River involving federal reserve water rights. Adjudication of claimed federal reserved water rights will involve court adjudications.

DNR has requested the Attorney General to review existing statutes to determine their adequacy to initiate a basin wide adjudication. Based on the findings of the Attorney General, DNR will if necessary, request enabling legislation to conduct basin wide adjudications in the near future.

### INSTREAM FLOW

Three main problem areas have developed since initial passage of the Water Use Act in 1966 which lead to passage of instream flow amendments to the Water Use Act in 1980. These problem areas include: (1) the need for a clear state administrative process for state adjudication of any claimed federal reserved instream water rights that might be asserted by the federal government, (2) the fishing industry and fishery management agencies expressed concern that there was no mechanism to legally establish water rights to maintain stream flows for fish habitat and production other than by establishing conditions on numerous DNR water rights permits, and (3) there was concern that depletions in water flow might affect water quality discharges from municipal treatment plants and mining operations.

Instream flow amendments were passed in 1980 and DNR began drafting implementing regulations in 1981. These regulations became effective in September 1983.

Uniquely, the Alaska statutes and regulations provide that both private individuals as well as governmental agencies can apply for, and be granted, water rights for instream purposes.

Alaska instream flow water rights may be obtained for:

1. fish and wildlife purposes,
2. recreation and park purposes,
3. navigation and transportation purposes, and
4. sanitary and water quality purposes.

#### Western States Water Council

The Western States Water Council (WSWC) was created in 1965 by the Governors at a Western Governor's Conference with the purpose of accomplishing effective cooperation among the participating states in planning for programs leading to integrated development by state, federal, and other agencies of their water resources. The Governors of 12 states; Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington, and Wyoming; are represented on the council and provisions are made in its Rules of Organization to permit the addition of Alaska and Hawaii to its membership.

The State of Alaska has participated as observers at WSWC quarterly meetings since 1978 by various officials, including former Lt. Governor Terry Miller and staffs of the Departments of Natural Resources and Law. The July 1979 quarterly meeting was hosted by Alaska in Sitka. In Fiscal Year 1982, the State of Alaska joined WSWC as an associate member through funding by DNR. This allows Alaskan state officials to attend and observe meetings and receive Council literature, however, the State has no vote.

The WSWC is effective in researching, preparing, and communicating western state's positions on water related issues particularly as they involve Federal/State relations and disputes; such as federal reserve water rights, instream flows, water quality, water use and dam safety. Many court decisions and policy decisions are being made in the Lower 48 which will set a precedent for Federal-State roles in Alaskan water management. The WSWC has a full time staff that works on policy alternatives, presents Western States positions at congressional hearings and other meetings, and is available to provide assistance to member states. It may be more efficient to utilize the services available through the Council rather than developing staff in Alaska's government on some of these matters. A litigation repository of state court cases involving State-Federal water cases on reserved and non-reserved water rights is available to member states as well as a cost sharing program for water resource projects.

Representation through full, voting membership on this Council would formalize the inclusion of Alaska into this broad western power base representing better than one-fourth of the states. The council provides an important and much needed forum for establishing unified positions on federal water legislation and for bringing out the water problems of the western states and Alaska in particular. Each state may select three

representatives for membership on the Council in addition to the Governor who is an ex-officio member. This membership could be of great benefit to several state agencies including the Departments of Natural Resources, Environmental Conservation, and Law.

Each state contributes a one time initial membership fee of \$15,000, payable over three years, and an annual membership fee (assessed at \$19,500 for Fiscal Year 1984-85) which is expended to influence local, regional, and national water policies and legislation. Noting that approximately one-third of the nation's freshwater supply is located within Alaska, direct participation on the Council by Alaska can further serve as a vehicle to insure that Alaska maintains its stewardship over its vast water resources.

STATE OF ALASKA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF LAND AND WATER MANAGEMENT

DAM FACTS

**Inventory and Classification**

How many Dams?.....175<sup>1/</sup>  
 How many are 10' or more high  
 or can store 50 or more acre feet?.....122

The hazard classification<sup>2/</sup>breakdown for the 122 dams is:

High Hazard 26  
 Significant Hazard 18  
 Low Hazard 78

New dams under construction:

Dam Name	Appl'n Date	Height (Feet)	Storage (Acre-Feet)	Hazard Class
Terror Lake	4/8/82	156	94,000	Low
Rolling Rock	4/8/82	25	1	Low
Shotgun Creek	4/8/82	40	480	Low
Falls	4/8/82	20	40	Low

**Budgets and Accomplishments**

FY '84 Budget — Dam Safety Total \$133,700

<u>100</u>	<u>200</u>	<u>300</u>	<u>400</u>	<u>500</u>	<u>Total</u>
77.5	19.5	36.2	0.5	-0-	133.7

FY '84 Dam Safety Staff:

Engineering Assistant II, Range 16

Technical Engineer, Range 21<sup>3/</sup>

1. The State's dam inventory has accounted for 175 dams in the Southcentral and Southeastern regions of the state. We anticipate finding as many as 40 additional dams as remaining areas of the state are included in the inventory.

2. Hazard classification pertains to the potential for loss of human life and property damage downstream of a dam in the event of failure.

3. As of March 7, 1984, we are awaiting delivery of the register through DOT. The position description has been approved, and classified.

FY '84 Accomplishments to Date:

Dam inspections . . . . . 3

Lowell Creek Diversion\*  
Solomon Gulch\*  
Lake-of-the-Hills

Dam application review and approval . . . . . 5

Neets Creek  
Bluff Lake Diversion  
Lekanoff  
City of Craig

February 7, 1984 authority to negotiate for Professional Service Contract approved for \$40,000 in FY '84 and \$60,000 in FY '85.

FY '84 Planned Accomplishments:

February 15, 1984 draft Dam Safety Information Fact Sheet completed March 9, 1984, awaits printing by Central Duplicating. Final draft RFP (Request for Proposal) for the inspection of 3 to 7 dams in FY '84.

FY '85 Budget -- Dam Safety Total \$416,300

<u>100</u>	<u>200</u>	<u>300</u>	<u>400</u>	<u>500</u>	<u>Total</u>
115.6	20.0	279.7	1.0	-0-	416.3

FY '85 Dam Safety Staff:

Same as FY '84 plus one Clerk Typist II

FY '85 Planned Accomplishments: Using approximately \$200,000 of "300" monies earmarked for professional services, equipment rental, and judicial expenses:

Dam inspections for safety evaluation..... 15-25  
Dam inspections for construction certification..... 3-6  
Inventory dams in interior Alaska.....  
Hazard Classification (to be completed by staff)..... 20  
available staff.

\* Jointly inspected with either the U.S. Department of Corps of Engineers or the Federal Energy Regulatory Commission

Of the 122 dams falling within the limits of Alaska's dam safety regulations; the following 10 dams have been identified as most in need of inspection.

Dam Name	Nearest Town	Dist.	Height (Feet)	Storage (Acre-Feet)	Hazard Class.	Last Inspect	Phase I <sup>4/</sup> Completed
Lake Connell	Ketchikan	0	96	10,700	High	6/13/78	Yes
Caralana	Ketchikan	0	31	600	High	6/13/78	Yes
Whitman Lake	Ketchikan	0	56	7,200	High	6/14, /8	Yes
Lowell Creek Diversion	Seward	0	--	(5,600) <sup>5/</sup>	High	6/18/78	Yes
Switzer Cr.#1	Juneau	0	40	5	High	5/79	No
Switzer Cr.#2	Juneau	0	15	3.5	High	6/80	No
Douglas Is. Dam	Juneau	1mi.	27	5	High	6/80	No
Alitak Cannery Dam	Kodiak	150mi.	9	62	Signi- ficant	6/23/81	Yes
Isatkoak Dam	Barrow	0	16	1,140	Signi- ficant	6/26/81	Yes
Squaw Harbor	Sand Point	10mi.	46	88	Signi- ficant	8/12/81	Yes
APW	Cordova	0	27	40	Signi- ficant	6/26/78	Yes

4. Phase I is an investigative inspection program of the Corps of Engineers for identifying dams posing hazards to human life and property.

5. Cubic feet per second (CFS)

L. A. Dutton, 2/17/84

Bruce - F.Y.I.

Calendar No. 625

98TH CONGRESS  
1st Session

SENATE

REPORT  
No. 98-340

WATER RESOURCES DEVELOPMENT ACT  
OF 1983

*See p. 11,  
pp 41-44*  
*DAM SAFETY*

REPORT

OF THE

COMMITTEE ON  
ENVIRONMENT AND PUBLIC WORKS  
UNITED STATES SENATE

TO ACCOMPANY

S. 1739

together with

ADDITIONAL AND MINORITY VIEWS



NOVEMBER 17 (legislative day, NOVEMBER 14), 1983.—Ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE

27-255 O

WASHINGTON : 1983

*3/7/84*

tually used for water supply purposes. This would render the contract consistent with the provisions of the Water Supply Act of 1958, which permits the maintenance and operation costs for water supply to be based on the actual volume of water used from reservoir storage.

*Section 332*

The Illinois and Mississippi Canal, also known as the Hennepin Canal, was built by the Corps of Engineers early in this century. The canal runs from the Mississippi River near the mouth of the Rock River to the Illinois River, a distance of about 50 miles. It also includes a side Canal.

The canal was closed to commercial navigation in 1951, then turned over to the State of Illinois for recreational use in 1970. Under the terms of the transfer, the Corps was required to redevelop the Canal; Congress provided an authorization of \$8,500,000 for this purpose. Much of that money was used in the initial rehabilitation work of the Corps.

But due to the need to satisfy a judgment resulting from a litigation involving highway bridges over the Canal, the rehabilitation work was never completed. It is estimated that the completion of rehabilitation of the Canal will cost \$15,000,000. This section authorizes repairs to a dam and embankment.

*Section 333*

This section designates the Lowndesville Recreation Area, located within the Richard B. Russell Dam and Lake Project, S.C. and Ga., as the Jim Rampey Recreation Area. The late Mr. Rampey was the owner of most of the land which is now part of the recreation area.

TITLE IV—DAM SAFETY

Title IV contains provisions which are designed to assist and encourage programs to increase the safety of non-Federal dams. This title amends the National Dam Inspection Act (Public Law 92-367) to encourage and assist state dam safety programs, establish a Federal Dam Safety Review Board, and authorizes a program of research into innovative dam safety inspection techniques.

*Section 401(a)*

This section requires that dams having certain safety-related characteristics, and those exceeding the minimum size requirements set forth in Public Law 92-367, be included in the National Inventory of Dams and come under the effect of the amendments in this Title.

One of the most significant Federal actions with regard to non-Federal dam safety problems has been the establishment of the National Inventory of Dams. The inventory has proven valuable for both Federal and State Dam safety efforts.

*Section 401(b)*

This section amends Public Law 92-367 by adding eight new sections to that law as follows:

*Section 7.*—Authorizes the Corps of Engineers to administer a \$15,000,000 a year grant program for five years, beginning in fiscal year 1985, with the money to be allocated on a matching basis to States that have or develop dam safety programs meeting the requirements of the new Section 8, created in this title. One-third of this money be equally divided among those States and two-thirds is to be distributed according to the number of dams on the National Inventory in those States.

*Section 8.*—Establishes criteria that a State's dam safety program must meet to be eligible for funding under the preceding section.

To determine if a State is eligible for section 7 funds, the Corps of Engineers must establish that a State has adequate procedures to review dam construction plans, to assure the safe construction and operation of dams, and to perform dam inspections. The State must also have authority to require modifications necessary to assure the safety of any non-Federal dam, emergency plans and procedures with respect to dams, assure that necessary safety repairs will be undertaken by the party responsible for a dam, and also must have emergency funds available to take immediate measures to protect human life and property in dam related emergency situations.

These criteria are modeled after provisions of the "Model State Dam Safety Law" developed by the United States Committee on Large Dams.

Any State program submitted for section 7 funds is automatically approved within 120 days unless the Chief of Engineers determines that it does not meet the criteria of section 8. In such cases, the Corps shall immediately notify the State of the decision, in writing.

The Chief is also required to review, with the assistance of the Federal Safety Review Board created in section 10, the implementation and effectiveness of approved State dam safety programs. The Corps shall revoke a State's funding under section 7 if that State's program is shown to be inadequate. Funds may only be renewed when the State's program has been reapproved.

*Section 9.*—Requires the Federal Emergency Management Agency to perform a study of the cost, the need for, and the effects of a federally sponsored reinsurance program for dam owners. The results of this study are to be transmitted to Congress within 18 months after the enactment of this section.

Dam failures have resulted in billions of dollars of property damage since 1972, and the dam owners find it difficult to purchase liability insurance. Thus, the Federal Government, in the event of a non-Federal dam failure, faces high costs for disaster relief, costs well beyond what the dam owner may be able to pay.

A Federal program of reinsurance might make liability insurance more available to dam owners, and result in eventual savings to the Federal Government. Study of this question is needed to identify the shape and scope of such a program, if justified.

*Section 10.*—Because of the importance of dam safety, a need exists for a central authority to provide oversight, coordination, and information exchange on dam safety.

This section establishes a nine-Member Federal Dam Safety Review Board consisting of one representative each from the Corps of Engineers, the Bureau of Reclamation, the Tennessee Valley Authority, the Soil Conservation Service, and the Federal Emergency Management Agency. In addition, four Presidentially appointed members who are not employees of the Federal Government are to be members, with two of these to represent States having dam safety programs approved under section 8.

The Board is required to perform three major functions: to review the procedures and standards utilized in the design and safety analysis of Federally constructed and operated dams, to review State implementation of dam safety programs approved pursuant to this Act, and to study the need for a Federal loan-program to assist in the repair of non-Federal dams.

*Section 11.*—Requires that any Federal Agency that owns, operates, or plans to construct a dam consult with the appropriate State or States on the design and safety of the dam and allow State officials to participate in any safety inspections of that dam.

While this section confers no actual decision-making role on the States regarding Federal dam construction or design, the Federal agencies should give full consideration to the views of the State on the safety related features of a Federal dam.

*Section 12.*—A serious problem for many States in establishing and maintaining effective dam safety programs is a lack of adequately trained personnel. The Corps of Engineers possesses a great deal of expertise in all aspects of dam safety. It conducted training sessions for state personnel pursuant to expired authority in Public Law 92-367.

Therefore, this section authorizes the Chief of Engineers to provide training for dam safety inspectors of States either having or developing a dam safety program approved under section 8. One million dollars is authorized for this purpose in fiscal year 1985, and \$500,000 is authorized for each of the next four fiscal years.

*Section 13.*—The present methods for dam inspection have, for the most part, remained unchanged for many years. Thorough inspections of most dams and evaluations of their structural integrity involve many man-hours and can be quite expensive. There is a need to develop new instruments and methods to evaluate dams. Because even the most thorough inspections by present day techniques cannot fully evaluate a dam's condition, there is a need to develop tools and techniques to reveal more about the structural integrity of dams.

To date, much work applicable to dam safety evaluation has been done in other fields, such as mineral exploration and construction technology. These evaluation involve the use of acoustic, thermal, microwave, or mechanical techniques to examine subsurface phenomena. The National Bureau of standards has expertise in the development and evaluation of this type of instrumentation.

This section authorizes \$1,000,000 annually for five years for the Corps of Engineers, in cooperation with the National Bureau of Standards, to undertake research and development on improved techniques and equipment for dam safety inspections and monitoring.

The Corps is also instructed to provide for State participation in this research, and is required to report periodically to the States and Congress on its progress.

*Section 14.*—Authorizes, for each of fiscal years 1985-1989, \$500,000 to the Corps of Engineers for the purpose of maintaining the National Inventory of Dams.

The Inventory of Dams catalogs the location, size, owner, condition, and other information on over 67,000 dams that could present a hazard in the event of their failure. Authorization to keep this important information tool current has expired and should be renewed.

*Section 402*

This section requires that any water resources study report submitted to the Senate Committee on Environment and Public Works and House Committee on Public Works and Transportation by the Corps of Engineers and the Soil Conservation Service that proposes the construction of a dam must include information on the consequences of its failure and factors which might contribute to that failure.

The risk associated with properly designed, constructed, and maintained dams is minimal, but the science of predicting the probability of any particular dam's failure is undeveloped. However, since the consequences of a dam's failure, however unlikely or unpredictable, could be catastrophic, it is reasonable to expect that such information be included in project reports.

*Section 403*

This section designates this title as the Dam Safety Act of 1983.

TITLE V

Section 501 sets a limitation on obligations for the construction, rehabilitation, operation, and maintenance of the commercial inland navigation system. The limitation is set at \$646,000,000 in each of 14 fiscal years, beginning in fiscal year 1986 and ending fiscal year 1999.

The \$646 million figure is based on actual expenditures for this function during fiscal year 1983. Thus, Title V freezes Federal obligations for commercial inland waterways activities—both from general revenues and from the Waterways Trust Fund—at current levels.

This limitation covers all expenditures by the Army Corps of Engineers on the commercial navigation components of the inland system.

Section 502 authorizes the Secretary of the Army to impose and collect use charges on commercial users of the inland system so that additional monies will be available, if needed, in excess of the obligation limits set in section 501. These additional funds would be raised and made available only if the Inland Waterway Users Board (established in the succeeding section) recommended them. Any such funds must be spent solely on commercial navigation components of the system.

The Corps is also instructed to provide for State participation in this research, and is required to report periodically to the States and Congress on its progress.

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## Calendar No. 625

98TH CONGRESS  
1ST SESSION

S. 1739

[Report No. 98-340]

To authorize the United States Army Corps of Engineers to construct various projects for improvements to rivers and harbors of the United States, and for other purposes.

---

 IN THE SENATE OF THE UNITED STATES

AUGUST 3 (legislative day, AUGUST 1), 1983

Mr. ABDNOR (for himself and Mr. MOYNIHAN) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

NOVEMBER 17 (legislative day, NOVEMBER 14), 1983

Reported by Mr. ABDNOR, with an amendment

[Strike out all after the enacting clause and insert the part printed in italic]

---

 A BILL

To authorize the United States Army Corps of Engineers to construct various projects for improvements to rivers and harbors of the United States, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
 2 *tives of the United States of America in Congress assembled,*  
 3 That this Act may be cited as the "Water Resources Devel-  
 4 opment Act of 1983".

1 500), until such time and in such proportion as the storage is  
2 used for water supply purposes.

3       *SEC. 332. In addition to amounts authorized to be ap-*  
4 *propriated to carry out agreements entered into by the Secre-*  
5 *tary with the State of Illinois pursuant to Section 110 of the*  
6 *River and Harbor Act of 1958 relating to the repair and*  
7 *modification of the Illinois and Mississippi Canal (Henne-*  
8 *pin Canal), there is authorized to be appropriated to the Sec-*  
9 *retary not to exceed \$15,000,000 to carry out such agree-*  
10 *ments.*

11       *SEC. 333. The Lowndesville Recreation Area, located*  
12 *within the Richard B. Russell Dam and Lake project, South*  
13 *Carolina and Georgia, shall hereafter be known and desig-*  
14 *nated as the "Jim Rampey Recreation Area". Any reference*  
15 *in any law, map, regulation, document, record, or other paper*  
16 *of the United States to such recreation area shall be deemed*  
17 *to be a reference to such areas as the "Jim Rampey Recrea-*  
18 *tion Area".*

#### 19                                   *TITLE IV—DAM SAFETY*

20       *SEC. 401. (a) Section 1 of Public Law 92-367 (86*  
21 *Stat. 596) is amended by replacing the final period with a*  
22 *comma and inserting the following after the comma: "unless*  
23 *such barrier, due to its location or other physical characteris-*  
24 *tics, is likely to pose a significant threat to human life or*  
25 *property in the event of its failure."*

1       (b) Public Law 92-367 is further amended by inserting  
2 after section 6 the following sections:

3       “SEC. 7. There is authorized to be appropriated to the  
4 Secretary of the Army, acting through the Chief of Engi-  
5 ners (hereafter in this Act referred to as the ‘Secretary’),  
6 \$15,000,000 for each of the fiscal years ending September  
7 30, 1985, through September 30, 1989. Sums appropriated  
8 under this section shall be distributed annually among those  
9 States on the following basis: One-third equally among those  
10 States that have established dam safety programs approved  
11 under the terms of section 8 of this Act, and two-thirds in  
12 proportion to the number of dams located in each State that  
13 has an established dam safety program under the terms of  
14 section 8 of this Act to the number of dams in all States with  
15 such approved programs. In no event shall funds distributed  
16 to any State under this section exceed 50 per centum of the  
17 reasonable cost of implementing an approved dam safety pro-  
18 gram in such State.

19       “SEC. 8. (a) In order to encourage the establishment  
20 and maintenance of effective programs intended to assure  
21 dam safety to protect human life and property, the Secretary  
22 shall provide assistance under the terms of section 7 of this  
23 Act to any State that establishes and maintains a dam safety  
24 program which is approved under this section. In evaluating  
25 a State’s dam safety program, under the terms of subsections

1 (b) and (c) of this section, the Secretary shall determine that  
2 such program includes the following:

3           “(1) a procedure, whereby, prior to any construc-  
4           tion, the plans for any dam will be reviewed to provide  
5           reasonable assurance of the safety and integrity of such  
6           dam over its intended life;

7           “(2) a procedure to determine, during and follow-  
8           ing construction and prior to operation of each dam  
9           built in the State, that such dam has been constructed  
10          and will be operated in a safe and reasonable manner;

11          “(3) a procedure to inspect every dam within such  
12          State at least once every five years, except that such  
13          inspections shall be required at least every three years  
14          for any dam the failure of which is likely to result in  
15          the loss of human life;

16          “(4) a procedure for more detailed and frequent  
17          safety inspections, when warranted;

18          “(5) the State has or can be expected to have au-  
19          thority to require those changes or modifications in a  
20          dam, or its operation, necessary to assure the dam's  
21          safety;

22          “(6) the State has or can be expected to develop a  
23          system of emergency procedures that would be utilized  
24          in the event a dam fails or for which failure is immi-  
25          nent together with an identification for those dams

1        *where failure could be reasonably expected to endanger*  
2        *human life, of the maximum area that could be inun-*  
3        *dated in the event of the failure of such dam, as well*  
4        *as identification of those necessary public facilities that*  
5        *would be affected by such inundation;*

6                *“(7) the State has or can be expected to have the*  
7        *authority to assure that any repairs or other changes*  
8        *needed to maintain the integrity of any dam will be*  
9        *undertaken by the dam’s owner, or other responsible*  
10       *party; and*

11               *“(8) the State has or can be expected to have au-*  
12       *thority and necessary emergency funds to make imme-*  
13       *diate repairs or other changes to, or removal of, a dam*  
14       *in order to protect human life and property, and if the*  
15       *owner does not take action, to take appropriate action*  
16       *as expeditiously as possible.*

17               *“(b) Any program which is submitted to the Secretary*  
18       *under the authority of this section shall be deemed approved*  
19       *one hundred and twenty days following its receipt by the*  
20       *Secretary unless the Secretary determines that such program*  
21       *fails to reasonably meet the requirements of subsection (a) of*  
22       *this section. If the Secretary determines such a program*  
23       *cannot be approved, he shall immediately notify such State*  
24       *in writing, together with his reasons and those changes*  
25       *needed to enable such plan to be approved.*

1       “(c) Utilizing the expertise of the Board established  
2 under section 10 of this Act, the Secretary shall review peri-  
3 odically the implementation and effectiveness of approved  
4 State dam safety programs. In the event the Board finds that  
5 a State program under this Act has proven inadequate to  
6 reasonably protect human life and property, and the Secre-  
7 tary agrees, the Secretary shall revoke approval of such State  
8 program and withhold assistance under the terms of section 7  
9 of this Act until such State program has been reapproved.

10       “SEC. 9. Not later than eighteen months after enact-  
11 ment of the Dam Safety Act of 1983, the Director of the  
12 Federal Emergency Management Agency shall report to the  
13 Congress on the need for and possible effects of a Federally  
14 sponsored program of reinsurance or guarantees of insurance  
15 for owners of dams. This report shall include information on  
16 a variety of possible Federal reinsurance or guarantees pro-  
17 grams and their cost, possible effects such a program or pro-  
18 grams might have on the private reinsurance business, and  
19 the number of dam owners possibly affected by such a pro-  
20 gram.

21       “SEC. 10. (a) There is authorized to be established a  
22 Federal Dam Safety Review Board (hereinafter in this Act  
23 referred to as the ‘Board’), which shall be responsible for re-  
24 viewing the procedures and standards utilized in the design  
25 and safety analysis of dams constructed and operated under

1 authority of the United States, and to monitor State imple-  
2 mentation of this Act. The Board is authorized to hire neces-  
3 sary staff and shall review as expeditiously as possible the  
4 plans and specifications on all dams specifically authorized  
5 by Congress prior to initiation of construction of such dam,  
6 and file an advisory report on the safety of such dam with the  
7 appropriate agency, the appropriate State, and the Congress.  
8 The Board is authorized to utilize the expertise of other agen-  
9 cies of the United States and to enter into contracts for neces-  
10 sary studies to carry out the requirements for this section.  
11 There is authorized to be appropriated to the Board such  
12 sums as may be necessary to carry out this section.

13       “(b) The Board shall also study the need for a Federal  
14 loan program to assist the owners of non-Federal dams in  
15 rehabilitating such structures for safety deficiencies. This  
16 study shall include a quantitative assessment of the availabil-  
17 ity of funds from existing Federal programs and all other  
18 sources for dam rehabilitation, a quantitative assessment of  
19 the need for such funds, and an analysis of any impediments  
20 which are found to the utilization of existing Federal sources  
21 of funds for this purpose.

22       “(c) The Board shall consist of nine members selected  
23 for their expertise in dam safety, including one representative  
24 each from the Department of the Army, the Department of the  
25 Interior, the Tennessee Valley Authority, the Federal Emer-

1 *gency Management Agency, and the Department of Agricul-*  
2 *ture, plus four members, appointed by the President for peri-*  
3 *ods of four years, on a rotating basis, who are not employees*  
4 *of the United States. At least two members of the Board shall*  
5 *be employees of the States having an approved program*  
6 *under section 8 of this Act. The Chairman of the Board shall*  
7 *be selected from among those members who are not employees*  
8 *of the United States.*

9       *"SEC. 11. The head of any agency of the United States*  
10 *that owns or operates a dam, or proposes to construct a dam*  
11 *in any State, shall, when requested by such State, consult*  
12 *fully with such State on the design and safety of such dam*  
13 *and allow officials of such State to participate with officials*  
14 *of such agency in all safety inspections of such dam.*

15       *"SEC. 12. The Secretary shall, at the request of any*  
16 *State that has or intends to develop a dam safety program*  
17 *under section 8 of this Act, provide training for State dam*  
18 *safety inspectors. There is authorized to be appropriated to*  
19 *carry out this section \$1,000,000 for the fiscal year ending*  
20 *September 30, 1985, and \$500,000 during each of fiscal*  
21 *years ending September 30, 1986, through September 30,*  
22 *1989.*

23       *"SEC. 13. The Secretary, in cooperation with the Na-*  
24 *tional Bureau of Standards, shall undertake a program of*  
25 *research in order to develop improved techniques and equip-*

1 ment for rapid and effective dam inspection, together with  
2 devices for the continued monitoring of dams for safety pur-  
3 poses. The Secretary shall provide for State participation in  
4 such research and periodically advise all States and the Con-  
5 gress of the results of such research. There is authorized to be  
6 appropriated to carry out this section \$1,000,000 for each of  
7 the fiscal years ending September 30, 1985, through Septem-  
8 ber 30, 1989.

9       “SEC. 14. The Secretary is authorized to maintain and  
10 periodically publish updated information on the inventory of  
11 dams authorized in section 5 of this Act. For the purpose of  
12 carrying out this section, there is authorized to be appropri-  
13 ated to the Secretary \$500,000 for each of the fiscal years  
14 ending September 30, 1985, through September 30, 1989.”.

15       SEC. 402. Any report that is submitted to the Commit-  
16 tee on Environment and Public Works of the Senate or the  
17 Committee on Public Works and Transportation of the  
18 House of Representatives by the Secretary, or the Secretary  
19 of Agriculture acting under Public Law 83-566, as amend-  
20 ed, which proposes construction of a water impoundment fa-  
21 cility, shall include information on the consequences of fail-  
22 ure and geologic or design factors which could contribute to  
23 the possible failure of such facility.

24       SEC. 403. This title shall be known as the “Dam  
25 Safety Act of 1983”.

## INTRODUCTION

The United States Committee on Large Dams  
of the  
International Commission on Large Dams

has prepared as a public service for consideration of the Governors and Legislatures of the fifty States of the United States this Model Law for State Supervision of Safety of Dams and Reservoirs.

The objective of the Model Law is safety; protection of areas below a dam from the consequences of a failure of a dam and/or untimely release of its reservoir contents. Design and construction of a dam requires the highest degree of professional engineering performance. The foundation of the dam must be stable under all conditions and capable of carrying the weight of the structure. The dam must impound its reservoir water without undue strain and be safe under the application of external forces such as those resulting from earthquakes. The reservoir area must be water-retentive and free of the possibilities of dangerous slides. Dams and associated facilities must be maintained in excellent condition throughout their life. Operation and surveillance through the year must be conducted in such a manner that any change in the structure of the dam, including its foundation, can be detected promptly and corrections made. If abandoned at any time the dam must be removed or breached to eliminate any hazard to downstream areas. This Model Law provides a guide for states who wish to provide regulations to supervise these elements essential to safe dams and reservoirs.

In developing this Model Law advantage was taken of the forty years of experience with the California statutes enacted in

1929 following the failure of the St. Francis Dam with a heavy loss of life and major property damage. The original draft was prepared by a distinguished nationwide committee of professional engineers, experts in the design, construction and management of safe dams and reservoirs. It was submitted in draft form to the Governors of all fifty States for comment. Their comments and those of their staffs are reflected in this Model Law.

This Model Law has not been prepared with the expectation that it would be adopted without change by any state. Changes to meet constitutional and legal requirements, the organizational structure, and the financial system of the several states is to be expected. Supervision of dams in Federal ownership have been omitted from jurisdiction as the consent of Congress would be necessary to such supervision. In this connection see *Arizona v. California*, 283 U.S. 423.

Some states may prefer to put some of the requirements into administrative or technical rules or regulations rather than into the statute itself to provide more flexibility. Experience has shown that incorporation in the basic law removes the requirements from possible frequent changes by a succession of administrators. The definition of a dam subject to jurisdiction (Sect. 1002) is expected to vary, state by state, to meet each state's individual need. The fee schedule requirement (Chapter 6) likewise is optional by states. It is not intended to be of such magnitude as to make the supervision program self-supporting.

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MODEL LAW  
FOR  
STATE SUPERVISION OF SAFETY OF DAMS AND RESERVOIRS

Chapter 1. Definitions

1000. Unless the context otherwise requires, the definitions in this chapter govern the construction of this Act.

1001. "Agency" means that Agency, Department, Office, or other unit of State Government designated by State law to be responsible for implementation or direction of this Act. (This section to be replaced in enactment of the law by a reference to the State unit created or selected to implement and direct the Act which may be regular State employees or specialists and consultants, including consulting engineering firms or organizations, for any or all of the provisions of this Act.)

1002. Jurisdiction applies to any artificial barrier, herein called a "dam", including appurtenant works, which does or will impound or divert water, and which (a) is or will be 25 feet or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the dam, or from the lowest elevation of the outside limit of the dam, if it is not across a stream channel or watercourse, to the maximum water storage elevation or (b) has or will have an impounding capacity at maximum water storage elevation of 50 acre-feet or more.

1003. No obstruction in a canal used to raise or lower water therein shall be considered a dam. A fill or structure for highway or railroad use or for any other purpose, which does or may impound water, shall be subject to review by the Agency

and shall be considered a dam if the criteria of Section 1002 are found applicable.

1004. "Reservoir" means any basin which contains or will contain impounded water.

1005. "Owner" includes any of the following who own, control, operate, maintain, manage, or propose to construct a dam or reservoir:

(a) The State and its Departments, institutions, agencies, and political subdivisions.

(b) Every municipal or quasi-municipal corporation.

(c) Every public utility.

(d) Every district.

(e) Every person.

(f) The duly authorized agents, lessees, or trustees of any of the foregoing.

(g) Receivers or trustees appointed by any court for any of the foregoing.

"Owner" does not include any agency of the United States Government, including those who operate and maintain dams owned by the United States.

"Person" means any person, firm, association, organization, partnership, business trust, corporation, or company.

1006. "Alterations", "repairs", or either of them, mean only such alterations or repairs as may directly affect the safety of the dam or reservoir, as determined by the Agency.

1007. "Enlargement" means any change in or addition to

an existing dam or reservoir, which raises or may raise the water storage elevation of the water impounded by the dam.

1008. "Water storage elevation" means the maximum elevation of water surface which can be obtained by the dam or reservoir without encroaching on the approved freeboard at maximum design flood.

1009. "Days" used in establishing deadlines, means calendar days, including Sundays and holidays.

1010. "Appurtenant works" include, but are not limited to, such structures as spillways, either in the dam or separate therefrom; the reservoir and its rim; low level outlet works; and water conduits such as tunnels, pipelines or penstocks, either through the dam or its abutments.

## Chapter 2. General Provisions

1025. It is the intent of the Legislature by this Act to provide for the regulation and supervision of all dams and reservoirs exclusively by the State to the extent required for the protection of public safety.

1026. No city or county has authority, by ordinance enacted by the legislative body thereof or adopted by the people under the initiative power, or otherwise, to regulate, supervise, or provide for the regulation or supervision of any dams or reservoirs in this State, or the construction, maintenance, operation, or removal or abandonment thereof, nor to limit the size of dam or reservoir or the amount of water which may be stored therein, where such authority would conflict with the

powers and authority vested in the Agency by this Act. This Act shall not prevent a city or county from adopting ordinances regulating, supervising, or providing for the regulation or supervision of dams and reservoirs that (a) are not within the State's jurisdiction, (b) are not subject to regulation by another public agency or body, or apply only to appurtenances such as roads and fences not germane to the safety of the structure.

1027. All plans and specifications for initial construction, enlargement, alteration, repair or removal of dams and supervision of construction shall be in charge of a civil engineer, licensed by this State, experienced in dam design and construction, assisted by qualified engineering geologists and other specialists when necessary.

1028. No action shall be brought against the State or the Agency or its agents or employees for the recovery of damages caused by the partial or total failure of any dam or reservoir or through the operation of any dam or reservoir upon the ground that such defendant is liable by virtue of any of the following:

(a) The approval of the dam or reservoir, or approval of flood handling plans during construction.

(b) The issuance or enforcement of orders relative to maintenance or operation of the dam or reservoir.

(c) Control and regulation of the dam or reservoir.

(d) Measures taken to protect against failure during an emergency.

1029. Nothing in this Act shall be construed to relieve an owner or operator of a dam or reservoir of the legal duties,

obligations, or liabilities incident to the ownership or operation of the dam or reservoir.

1030. The findings and orders of the Agency and the certificate of approval of any dam or reservoir issued by the State are final and conclusive and binding upon all owners, and State agencies, regulatory or otherwise, as to the safety of design, construction, maintenance, and operation of any dam or reservoir.

1031. Nothing in this Act shall be construed to deprive any owner of such recourse to the courts as he may be entitled to under the laws of this State.

1032. All records of official actions of the Agency and its correspondence pertaining to the supervision of dams and reservoirs are public documents.

1033. All owners shall notify the Agency of any change in ownership of any dam or reservoir subject to this Act at the time the transfer of ownership occurs.

### Chapter 3. Administrative Provisions

1050. The Agency shall be administered and directed by a civil engineer, licensed by this State, experienced in the design and construction of dams and reservoirs, and it shall employ such clerical, engineering, and other assistants as are necessary for carrying on the work of dam and reservoir supervision in accordance with this Act.

1051. When the safety considerations pertaining to a certificate of approval, dam, reservoir, or plans and specifications require it, or when requested in writing to do so by the

owner, the Agency may appoint a consulting board of two or more consultants not previously associated with the structure, to report to the Agency on its proposed action with respect to these considerations.

1052. The cost and expense of a consulting board if appointed on the request of an owner shall be paid by the owner.

#### Chapter 4. Powers of the Agency

##### Article I. Powers in General

1075. The Agency, under the police power of the State, shall review and approve the design, construction, enlargement, alteration, repair, maintenance, operation, and removal of dams and reservoirs for the protection of life and property as provided in this Act.

1076. All dams and reservoirs in the State are under the jurisdiction of the Agency, except those dams which are Federally owned.

1077. It is unlawful to construct, enlarge, repair, alter, remove, maintain, operate or abandon any dam or reservoir coming within the purview of this Act except upon approval of the Agency, provided that this section shall not be deemed to apply to routine maintenance and operation not affecting the safety of the structure.

1078. The Agency shall adopt and revise from time to time such rules and regulations and issue such general orders as may be necessary for carrying out, but not inconsistent with, the provisions of this Act.

1079. In making any investigation or inspection necessary to enforce or implement this Act, the Agency or its

representatives may enter upon such private property of the dam owner as may be necessary.

1080. In determining whether a dam or reservoir or proposed dam or reservoir constitutes or would constitute a danger to life or property, the Agency shall take into consideration the following conditions, not necessarily all inclusive: the possibility that the dam or reservoir might be endangered by overtopping, seepage, settlement, erosion, cracking, earth movement, earthquakes, failure of bulkheads, flashboard, gates and conduits, which exist or which might occur in any area in the vicinity of the dam or reservoir. Whenever the Agency deems that any conditions endanger a dam or reservoir, it shall order the owner to take such action as necessary to the satisfaction of the Agency to remove the resultant danger to life and property.

#### Article 2. Investigations and Studies

1081. For the purpose of enabling it to make decisions as compatible with public safety and economy as possible, the Agency shall make or cause to be made such investigations and shall gather or cause to be gathered such data including advances made in safety practices elsewhere, as may be needed for a proper review and study of the various features of the design, construction, repair and enlargement of dams, reservoir, and appurtenances.

1082. The Agency shall also make or cause to be made from time to time such watershed investigations and studies as may be necessary to keep abreast of developments affecting stream run-off and as required to facilitate its decisions.

Article 3. Action and Procedure to  
Restrain Violations

1083. The Agency may take any legal action proper and necessary for the enforcement of this Act.

1084. An action or proceeding under this article may be commenced whenever any owner or any person acting as a director, officer, agent, or employee of any owner, or any contractor or agent or employee of such contractor is:

(a) Failing or omitting or about to fail or omit to do anything required of him by this Act or by any approval, order, rule, regulation, or requirement of the Agency under the authority of this Act, or

(b) Doing or permitting anything or about to do or permit anything to be done in violation of or contrary to this Act or any approval, order, rule, regulation, or requirement of the Agency under this Act.

1085. Any action or proceeding under this article shall be commenced in a court of appropriate jurisdiction in which (a) the cause or some part thereof arose, (b) the owner or person complained of has its principal place of business, or (c) the person complained of resides.

Chapter 5. Applications

Article 1. New Dams and Reservoirs or Enlargements  
of Dams and Reservoirs

1100. Construction of any new dam or reservoir or the enlargement of any dam or reservoir shall not be commenced until the owner has applied for and obtained from the Agency written approval of plans and specifications.

1101. A separate application for each reservoir and its dams shall be filed with the Agency upon forms to be provided by it.

1102. The application shall give the following information:

(a) The name and address of the owner.

(b) The location, type, size, and height of the proposed dam and reservoir and appurtenant works.

(c) The storage capacity and reservoir surface areas for normal pool and maximum high water.

(d) Plans for proposed permanent instrument installations in the dam.

(e) As accurately as may be readily obtained, the area of the drainage basin, rainfall and streamflow records and flood-flow records and estimates.

(f) Maps and general design drawings showing plans, elevations, and sections of all principal structures and appurtenant works or other features of the project in sufficient detail, including design analyses, to determine safety, adequacy and suitability of design.

(g) Such other pertinent information as the Agency requires, such as proposed time for commencement and completion of construction.

1103. The Agency shall, when in its judgment it is necessary, also require the following:

(a) Data concerning subsoil and rock foundation conditions and the materials entering into construction of the dam or reservoir.

(b) Investigations of, and reports on, subsurface conditions, involving such matters as exploratory pits, trenches and adits, drilling, coring, geophysical surveys, tests to determine leakage rates, and physical tests to measure in place and in the laboratory the properties and behavior of foundation materials at the dam or reservoir site.

(c) Investigations of, and reports on, the geology of the dam or reservoir site and its vicinity, possible geologic hazards, including seismic activity, faults, weak seams and joints, availability and quality of construction materials, and other pertinent features.

(d) Such other appropriate information as may be necessary in a given instance.

1104. In instances wherein the physical conditions involved and the size of the dam or reservoir are such as to render the above requirements as to drainage areas, rainfall, streamflow, floodflow, and drilling or prospecting of site unnecessary, the Agency may waive the requirements.

1105. The application shall set forth the purpose or purposes for which the impounded or diverted water is to be used.

## Article 2. Repairs, Alterations, or Removals

1106. Before commencing the repair, alteration or removal of a dam or reservoir, including the alteration or removal of a dam or reservoir so that it no longer constitutes a dam or reservoir as defined in this Act, the owner shall file an application and secure the written approval of the Agency, except as provided in this article. Repairs shall not be deemed to

apply to routine maintenance and operation not affecting the safety of the structure.

1107. The application shall give such pertinent information or data concerning the dam or reservoir, or both, as may be required by the Agency and such information as to other matters appropriate to a thorough consideration of the safety of such a change as may be required by the Agency.

1108. The application shall state the proposed time of commencement and of completion of remedial construction.

1109. The application shall give the name and address of applicant, shall adequately detail, with appropriate references to the existing dam or reservoir, the changes which it is proposed to effect, and shall be accompanied by maps and plans and specifications which shall be a part of the application and which shall be of such character and size and set forth such pertinent details and dimensions as the Agency may require. The Agency may waive any of the requirements of this section if found by it unnecessary.

1110. In case of an emergency where the Agency declares repairs or breaching of the dam are immediately necessary to safeguard life and property repairs or breaching shall be started immediately by the owner, or by the Agency at the owner's expense, if he fails to do so. The Agency shall be notified at once of proposed emergency repairs or breaching and of work under way when instituted by the owner.

1111. The proposed repairs, breaching and work shall be made to conform to such orders as the Agency issues.

### Article 3. Approval of Applications

1112. Upon receipt of an application the Agency shall give its consideration thereto and shall approve or disapprove the same within the time provided in Section 1114.

1113. If an application is defective, it shall be returned to the applicant for such action as necessary to correct the defects, endorsed so that in order to retain its validity, it must be corrected and returned to the Agency within 30 days or such further time as may be given by the Agency. If the application is not so returned, it shall be rejected.

1114. No applications shall be approved or disapproved in less than 30 days after the receipt of the fee required by Section 1125, but all applications shall be approved or disapproved as soon as practicable thereafter. At the discretion of the Agency hearings may be held on each application.

1115. Approvals shall be granted under terms, conditions, and limitations necessary to safeguard life and property.

1116. Actual construction shall be commenced within one year after date of approval; otherwise the approval becomes void.

1117. The Agency may, upon written application and for good cause shown, extend the time for commencing construction.

1118. Notice shall be given to the Agency at least ten days before construction is to be commenced and such other notices shall be given to the Agency as it may require.

## Chapter 6. Fees

1125. The application for a new dam and reservoir or enlargement shall set forth the estimated net cost, as defined in this chapter, of the dam and reservoir or enlargement and shall be accompanied by a filing fee based upon the estimated cost and according to the following schedule: (Schedule below will of necessity vary in each State.)

(a) For the first one hundred thousand dollars (\$100,000) a fee of 2 percent of the estimated cost.

(b) For the next four hundred thousand dollars (\$400,000) a fee of  $1\frac{1}{2}$  percent.

(c) For the next five hundred thousand dollars (\$500,000) a fee of 1 percent.

(d) For all costs in excess of one million dollars (\$1,000,000) a fee of one-half of 1 percent.

In no case, however, shall the fee be less than one hundred dollars (\$100) or more than fifty thousand dollars (\$50,000).

1126. One fee only shall be collected for an enlargement to be effected by flashboards, sandbags, earthen levees, gates, or other works, devices, or obstructions which are, from time to time, to be removed and replaced or opened and shut and thereby operated so as to vary the surface elevation of the impounded water.

1127. For the purposes of this Act, the estimated net cost of the dam and reservoir or enlargement involved shall include the following:

(a) The cost of all labor and materials entering into the construction of the dam and appurtenant works or reservoir, including right of way.

(b) The cost of preliminary investigations and surveys.

(c) The cost of the construction plant properly chargeable to the cost of the dam or reservoir.

(d) Any and all other items entering directly into the cost of the dam or reservoir.

1128. Excluded from the cost listed in Section 1127 shall be:

(a) Costs of right of way for other than the dam and reservoir.

(b) Detached or underground powerplants, including switchyards and substations.

(c) Electrical generating, or pump-generating machinery.

(d) Roads, railroads, heliports and landing strips affording access to the dam or reservoir.

1129. An application shall not be considered by the Agency until the filing fee is received. All or part of the filing fee may be returned to the applicant only if he withdraws or cancels the application any time prior to the start of construction. The amount of the refund will be determined by the Agency with due regard to funds actually expended by the Agency in consideration of the application.

1130. As soon as possible after giving the notice of completion required in Section 1150, the owner shall file an

affidavit with the Agency stating the actual cost of the dam and reservoir or enlargement thereof in such detail as the Agency requires to determine whether a further fee is due. In the event the owner of a new or enlarged dam or reservoir, because of loss of records, recent change of ownership, or other causes beyond his control, is unable to report the actual cost of construction or enlargement, he shall file an affidavit to this effect, stating the reasons therefor, within thirty days after receiving a written request therefor from the Agency. The Agency shall then make its own appraisal of the cost of construction or enlargement and determine what further fee, if any, is required.

1131. In the event the actual cost exceeds the estimated net cost by more than 15 percent, a further fee shall be required by the Agency computed under the schedule set forth in Section 1125 upon the actual cost, plus a penalty of 15 percent of the actual cost. No further fee shall be required, however, if such fee is to be computed at less than twenty dollars (\$20). Upon making a determination that a further fee is required, the Agency shall notify the owner by certified mail of the amount of such fee and shall notify the owner that he may appear within sixty days thereafter before an authorized representative of the Agency to protest the amount of the fee, in whole or in part, determined by the Agency to be required, and the sufficiency of the appraisal upon which such determination was based.

1132. All filing fees and other charges collected under the provisions of this Act shall be paid into a special fund in the State Treasury immediately after the Agency has certified

as to the correctness of the amounts received, to be available to the Agency for expenditure for the purposes authorized by this Act.

1133. The fees provided for in this article shall be required of all enumerated in the definition of owner in Chapter 1 of this Act.

## Chapter 7. Inspection and Approval

### Article 1. New or Enlarged Dams and Reservoirs

1150. Immediately upon completion of a new dam and reservoir or enlargement of a dam and reservoir the owner shall give a notice of completion to the Agency, and as soon thereafter as possible shall file with the Agency a certificate signed by the responsible engineer supervising construction for the owner, certifying that the project was constructed in conformance with approved plans and specifications, accompanied by supplementary drawings or descriptive matter showing or describing the dam or reservoir as actually constructed, which shall include but not be limited to the following:

(a) A record of all geological boreholes and grout holes and grouting.

(b) A record of permanent location points, benchmarks and instruments embedded in the structure.

(c) A record of tests of concrete or other material used in the construction of the dam and reservoir.

(d) A record of seepage flows and embedded instrument readings.

1151. In connection with the enlargement of a dam and reservoir, the supplementary drawings and descriptive matter need apply only to the new work.

1152. A certificate of approval shall be issued by the Agency upon a finding by the Agency that the dam and reservoir are safe to impound water within the limitations prescribed in the certificate. No water shall be impounded by the structure prior to issuance of the certificate.

#### Article 2. Certificates of Approval

1153. Each certificate of approval issued by the Agency under this Act may contain such terms and conditions as the Agency may prescribe.

1154. The Agency may revoke or suspend any certificate of approval whenever it determines that the dam or reservoir constitutes a danger to life and property. Whenever it deems such action necessary to safeguard life and property, the Agency may also amend the terms and conditions of any such certificate by issuing a new certificate containing the revised terms and conditions.

1155. Before any certificate of approval is revoked by the Agency, the Agency shall hold a hearing. Written notice of the time and place of the hearing shall be mailed, at least twenty days prior to the date set for the hearing, to the holder of the certificate. Any interested persons may appear at the hearing and present their views and objections to the proposed action. Any petition to a court of appropriate jurisdiction to

inquire into the validity of action of the Agency revoking a certificate of approval shall be commenced within thirty days after service of notice of the revocation on the holder of the certificate.

Article 3.     Repaired or Altered  
                  Dams and Reservoirs

1156. Immediately upon completion of the repair or alteration of any dam or reservoir, the owner shall give notice of completion to the Agency and as soon thereafter as possible shall file with the Agency a certificate signed by the responsible engineer supervising the work for the owner that the repairs or alterations were completed in accordance with the approved plans and specifications, accompanied by supplementary drawings or descriptive matter showing or describing the dam or reservoir as actually repaired or altered together with such maps, data, records, and information pertaining to the dam or reservoir as repaired or altered as the Agency requires.

1157. A certificate of approval shall be issued by the Agency upon a finding by the Agency that the dam and reservoir are safe to impound water within the limitations prescribed in the certificate. Pending issuance of a new certificate of approval, the owner of the dam or reservoir shall not, through action or inaction, cause the dam or reservoir to impound water beyond the limitations prescribed in the existing certificate.

1158. The certificate of approval shall supersede any previous certificate of approval issued for the dam or reservoir so repaired or altered.

#### Article 4. Removal of Dams and Reservoirs

1159. Upon completion of the removal of a dam or complete drawdown of a reservoir such evidence as to the manner in which the work was performed and as to the conditions obtaining after the removal as the Agency requires shall be filed with the Agency.

1160. This evidence shall show that a sufficient portion of the dam has been removed to permit the safe passage of floods down the watercourse across which the dam was located, within flooding criteria required by the Agency, and that adequate provision has been made by the owner to prevent damage downstream from the remaining portion of the dam by subsequent flooding of downstream areas under such criteria.

1161. Before final approval of the removal of a dam or reservoir is issued, the Agency shall inspect the site of the work and determine that all danger to life and property as a result thereof has been eliminated.

#### Article 5. Complaints as to Unsafe Conditions

1162. Upon receipt of a written complaint alleging that the person or property of the complainant is endangered by the construction, enlargement, repairs, alterations, maintenance, or operation of any dam or reservoir the Agency shall cause an inspection to be made unless the data, records, and inspection reports on file with it are found adequate to make a determination whether the complaint is valid.

1163. If the Agency authorizes an inspection the complainant shall deposit with the Agency a sum estimated by it

to be sufficient to cover costs of the inspection. The Agency may utilize independent consultants of its selection to make the inspection and a report to the Agency.

1164. If it is found that an unsafe condition exists, the Agency shall notify the owner to take such action as is necessary to render or cause the condition to be rendered safe, including breaching or removal of any dam found beyond repair, and any money deposited to secure an inspection shall be returned.

1165. If, after an inspection is made on account of a complaint, the complaint is found by the Agency to have been without merit, the cost therefor shall be payable into the Special Fund in State Treasury from the money deposited, with any excess returned to the complainant. The complainant will be provided with a copy of the official report of the inspection.

Article 6. Inspection During  
Progress of Work

1166. During the construction, enlargement, repair, alteration, or removal of any dam or reservoir the Agency shall make either with its own engineers or by consulting engineers or engineering organizations, periodic inspections at State expense for the purpose of ascertaining compliance with the approved plans and specifications. The Agency shall require the owner to perform at his expense such work or tests as necessary, provide adequate supervision during construction by a civil engineer registered or licensed by the laws of this State, and to disclose information sufficient to enable the Agency to determine that conformity with the approved plans and specifications is being secured.

1167. If, after any inspections, investigations, or examinations, or at any time as the work progresses, or at any time prior to issuance of a certificate of approval it is found by the Agency that amendments, modifications, or changes are necessary to ensure safety, the Agency may order the owner to revise his plans and specifications, provided, however, the owner may, pursuant to Section 1051, request an independent consulting board to review the order of the Agency.

1168. If conditions are revealed which will not permit the construction of a safe dam or reservoir the Agency's approval shall be revoked.

1169. In the event that conditions imposed may be waived or made less burdensome in its judgment without sacrificing safety, the Agency may authorize an owner to revise the plans and specifications accordingly.

1170. If at any time during construction, enlargement, repair, or alterations of any dam or reservoir the Agency finds that the work is not being done in accordance with the provisions of the original approved plans and specifications or in accordance with the approved revised plans and specifications, it shall give a written notice thereof and order compliance by registered mail or by personal service to the owner.

1171. The notice and order shall state the particulars in which the original approved plans and specifications or the approved revised plans and specifications are not being or have not been complied with and shall order the immediate compliance with the original approved plans and specifications or with the

approved revised plans and specifications as the case may be.

1172. The Agency may order that no further work be done until such compliance has been effected and approved by the Agency.

1173. A failure to comply with the approval and approved plans and specifications shall render the approval subject to revocation by the Agency, if compliance is not made in accordance therewith after notice and order from the Agency as provided in this article. If compliance is not forthcoming in a reasonable time, the Agency may order the incomplete structure removed sufficiently to eliminate any safety hazard to life or property.

#### Chapter 8. Maintenance, Operation and Emergency Work

##### Article 1. Maintenance and Operation

1174. Supervision over the maintenance and operation of dams and reservoirs in this State, other than those owned by the Federal Government, insofar as necessary to safeguard life and property from injury by reason of the failure thereof is vested in the Agency.

1175. The Agency shall require owners or their agents to keep available and in good order records of original and any modification construction and to report annually with respect to maintenance, operation and engineering including piezometric data and geologic investigations. The Agency shall issue such rules and regulations and orders as necessary to secure adequate maintenance, operation and inspection by owners or their agents and shall require engineering and geologic investigations by owners or their agents which will safeguard life and property.

In addition, the owner of a dam or reservoir or his agent shall fully and promptly advise the Agency of any sudden or unprecedented flood or unusual or alarming circumstance or occurrence existing or anticipated which may affect the dam or reservoir.

1176. The Agency, from time to time, but not less often than once every five years, either with its own engineers, or by consulting engineers or engineering organizations, shall make inspections of dams and reservoirs at State expense for the purpose of determining their safety but shall require owners to perform at their expense such work as may reasonably be required to disclose information sufficient to enable the Agency to determine conditions of dams and reservoirs in regard to their safety and to perform at their expense other work which may reasonably be required, including installation of instruments necessary to secure maintenance and operation which will safeguard life and property.

#### Article 2. Emergency Work

1177. The Agency shall be responsible for determining that an emergency exists and through normal disaster communication channels shall warn the public, immediately employing any remedial means necessary to protect life and property, if in its judgment either:

(a) The condition of any dam or reservoir is so dangerous to the safety of life or property as not to permit of time for the issuance and enforcement of an order relative to maintenance or operation.

(b) Passing or imminent floods or any other condition which threaten the safety of any dam or reservoir.

1178. In applying the remedial means provided for in this article, the Agency may in emergency with its own forces, or by other means at its disposal, do any of the following:

(a) Take full charge and control of any dam or reservoir.

(b) Lower the water level by releasing water from the reservoir.

(c) Completely empty the reservoir.

(d) Perform any necessary remedial or protective work at the site.

(e) Take such other steps as may be essential to safeguard life and property.

1179. The Agency shall continue in full charge and control of such dam or reservoir, or both, and its appurtenances until they are rendered safe or the emergency occasioning the action has ceased and the owner is able to take back such operations. The Agency's take over will not operate to relieve the owner of a dam or reservoir of liability for any negligent acts of the owner or his agents.

1180. The cost and expense of the remedial means provided in this article, including cost of any work done to render a dam or reservoir or its appurtenances safe, shall be collected by presentation of bills to owners in the same manner as other debts to the State are recoverable, provided that if such bills are not promptly paid by the owners the cost shall be recovered by the State from the owner by action brought by the Agency in a court of appropriate jurisdiction.

Chapter 9. Offenses and Punishment

1185. Every person who violates any of the provisions of this Act or of any approval, order, rule, regulation, or requirement of the Agency is guilty of a misdemeanor and punishable by a fine of not more than \_\_\_\_\_ (\$ \_\_\_\_\_) or by imprisonment in \_\_\_\_\_. In the event of a continuing violation each day that the violation continues constitutes a separate and distinct offense.

1186. Any person who wilfully obstructs, hinders, or prevents the Agency or its agents or employees from performing the duties imposed by this Act or who wilfully resists the exercise of the control and supervision conferred by this Act upon the Agency or its agents or employees is guilty of a misdemeanor and punishable as provided in this article.

1187. Any owner or any person acting as a director, officer, agent, or employee of an owner, or any contractor or agent or employee of a contractor who engages in the construction, enlargement, repair, alteration, maintenance, or removal of any dam or reservoir, who knowingly does work or permits work to be executed on the dam or reservoir without an approval or in violation of or contrary to any approval as provided for in this Act, or any inspector, agent, or employee of the Agency who has knowledge of such work being done and who fails to immediately notify the Agency thereof is guilty of a misdemeanor and punishable as provided in this article.

Chapter 10. Dams and Reservoirs Existing Prior to  
the Effective Date of this Law

Article 1. Dams and Reservoirs Completed Prior  
to Effective Date of this Law

1200. Every owner of a dam or reservoir that falls within the definition of a dam or reservoir in this Act that was completed prior to the effective date of this Law shall immediately file an application with the Agency for the approval of such dam or reservoir.

1201. A separate application for each reservoir and its dams shall be filed with the Agency upon forms to be supplied by it and shall include or be accompanied by such appropriate information concerning the dams or reservoir as the Agency requires.

1202. The Agency shall give notice to file an application to owners of such dams or reservoirs who have failed to do so as required by this article, and a failure to file within thirty days after such notice shall be punishable as provided in this Act.

1203. The notice provided for in this article shall be given by certified mail to the owner at his last address of record in the office of the county assessor of the county in which the dam is located and such mailing shall constitute service.

1204. The Agency shall make inspections of such dams or reservoirs at State expense.

1205. The Agency shall require owners of such dams or reservoirs to perform at their expense such work or tests as

may reasonably be required to disclose information sufficient to enable the Agency to determine whether to issue certificates of approval or to issue orders directing further work at the owner's expense necessary to safeguard life and property. For this purpose, the Agency may require an owner to lower the water level of, or to empty, the reservoir.

1206. If, upon inspection or upon completion to the satisfaction of the Agency of all work that may be ordered, the Agency finds that the dam and reservoir are safe to impound water, a certificate of approval shall be issued. The owner of the dam or reservoir shall not, through action or inaction, cause the dam or reservoir to impound water following receipt by the owner of a written notice from the Agency that a certificate will not be issued because the dam or reservoir will not safely impound water. Before such notice is given by the Agency, the Agency shall hold a hearing. Written notice of the time and place of the hearing shall be mailed, at least twenty days prior to the date set for the hearing, to the owner of the dam or reservoir. Any interested persons may appear at the hearing and present their views and objections to the proposed action.

Article 2. Dams and Reservoirs Under  
Construction Before Effective  
Date of this Law

1207. Any dam or reservoir that falls within the definition of a dam or reservoir in this Act and which the Agency finds was under construction and based on its findings not 90 percent constructed on the effective date of this Law

shall, except as provided in Section 1208, be subject to the same provisions in this Act as a dam or reservoir commenced after that date. Every owner of such a dam or reservoir shall file an application with the Agency for the Agency's written approval of the plans and specifications of the dam or reservoir.

1208. Construction work on such a dam or reservoir may proceed, provided an application for approval of the plans and specifications therefor is filed, until a certificate of approval is received by the owner from the Agency approving the dam and reservoir or an order is received by the owner from the Agency specifying how the construction must be performed to render the dam or reservoir safe. After receipt of an order specifying how construction of the dam or reservoir must be performed, work thereafter must be in accordance with the order.

1209. Such dams or reservoirs as are based on Agency findings 90 percent or more constructed on the effective date of this Law shall be subject to the same supervision as dams or reservoirs which were completed prior thereto.

Article 3. Fees for Dams or Reservoirs Under  
Construction Before Effective Date  
of this Law

1210. The owners of dams or reservoirs that, based on Agency findings, are 90 percent or more constructed on the effective date of this Act and that are subject to the provisions of this Act shall not be required to pay a fee but shall submit an application for approval and issuance of a State certificate as provided in Section 1209. Applications for the approval of dams and reservoirs that are made subject to this

Act that are found by the Agency to have been less than 90 percent constructed on the effective date of this Law shall be accompanied by fees as much less than provided for dams and reservoirs commenced after that date as the percentage of construction found by the Agency to have been completed on that date.

NEVADA LEGISLATURE'S  
COMMITTEE ON PUBLIC LANDS

LEGISLATIVE BUILDING  
CAPITOL COMPLEX  
CARSON CITY, NEVADA 89710



DF S  
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CLARK COUNTY COMMISSIONER KAREN W. HAYES

STAFF DIRECTOR ROBERT E. ERICKSON (702) 885-5617

March 29, 1984

RECEIVED  
APR 02 1984

The Honorable William Sheffield  
Governor of the State of Alaska  
State Capitol  
Juneau, AK 99811

GOVERNOR'S OFFICE

Dear Governor Sheffield:

At its regular meeting held earlier this month, the Nevada Legislature's Committee on Public Lands adopted a resolution which is enclosed for your information and action.

In addition to our request that the current moratorium be removed concerning studies of interstate transfers of water, we are enclosing a copy of a summary of the proposed "Rocky Mountain Plan." This plan is an example of the type of studies which must be conducted now if the western half of our Nation is to be ready to address the imminent crises of the next century involving water resources.

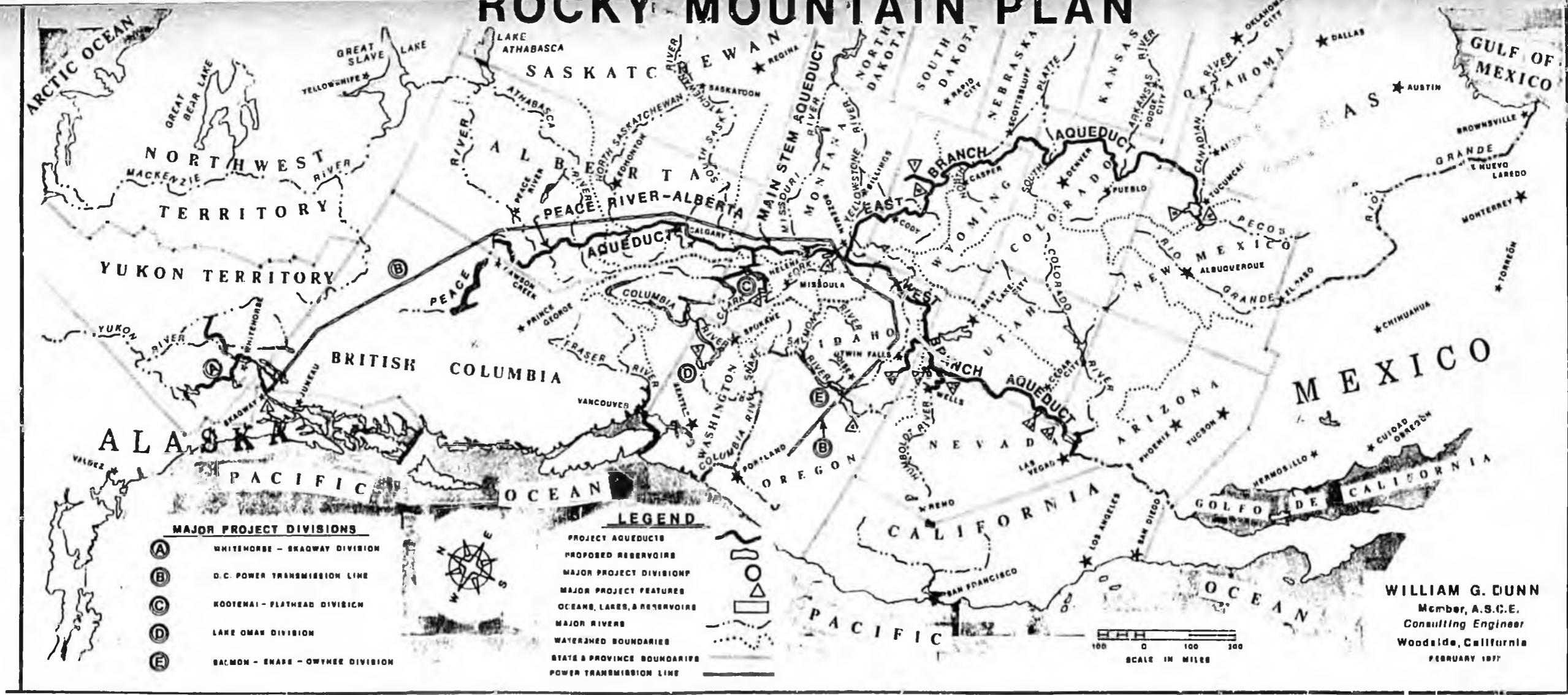
Thank you for your consideration of this most important matter.

Sincerely,

Handwritten signature of Norman D. Glaser in cursive.  
Senator Norman D. Glaser  
Chairman

NDG/11p  
Enc.

# ROCKY MOUNTAIN PLAN



WILLIAM G. DUNN  
Member, A.S.C.E.  
Consulting Engineer  
Woodside, California  
FEBRUARY 1977

Project Feature Number - Name	Location	Capacity (cfs)	Length in Miles		Project Feature Number - Name	Location	Maximum Capacity (Acre Feet)	Water Surface Area (Acres)	Dam Size	
			Total Aqueduct	Tunnels and Siphons					Height (Feet)	Crest (Feet)
Main Stem	Browning, Montana to Bozeman, Montana	30,000	323	30	△ Camas Prairie	Polson, Montana	12,670,000	33,380	700	12,600
West Branch	Bozeman, Montana to Lake Mead, Nevada	15,000	1031	134	△ Lake Okaik	Okanagan, Wash.	23,130,000	38,780	840 800	12,300 4,900
East Branch	Bozeman, Montana to Tucumcari, New Mexico	15,000	2071	155	△ New Owyhee	Nyssa, Oregon	24,510,000	82,910	880	4,800
Peace River - Alberta Branch	Peace River, Alberta to Browning, Montana	20,000	1248	26	△ Boulder	Boulder, Montana	19,200,000	68,413	710 310	13,700 4,400
△ Longue River Aqueduct	South of Buffalo, Wyoming	2,000	133	7	△ Lower Nowood	Worland, Wyoming	1,700,000	21,530	280 80	5,000 2,000
△ Pecos River Aqueduct	North of Santa Rosa, New Mexico	3,000	35	6	△ Upper Nowood	Worland, Wyoming	1,800,000	12,000	430	6,500
△ Southern Idaho Aqueduct	South of Twin Falls, Idaho	2,000	185	24	△ Tucumcari	Tucumcari, N. Mex.	54,500,000	257,000	570 410	11,350 3,100
△ Western Nevada Aqueduct	Southeast of Wells, Nevada	2,000	100	3	△ Thousand Springs	Wells, Nevada	9,890,000	72,500	518	4,900
					△ Big Enterprise	Cedar City, Utah	890,000	8,400	300	3,100
					△ Pecos River	Santa Rosa, N. Mex.	900,000	11,700	250	1,100

RESOLUTION OF THE NEVADA LEGISLATURE'S COMMITTEE ON PUBLIC LANDS

RESOLUTION - Urging the United States Government to immediately undertake a long-range study of water problems in the western states.

WHEREAS, The moratorium on reconnaissance studies of any plan for the importation of water into the Colorado River Basin by the Federal Government will not expire until September 30, 1988; and

WHEREAS, There is a growing water shortage in the western states as evidenced by the continuing ground water overdraft of millions of acre feet of water; and

WHEREAS, National energy requirements spurred the multi-billion dollar development of Alaska petroleum reserves and the completion of the Alaska pipeline, requiring many years of planning to determine its economic and engineering feasibility; and

WHEREAS, America's dependence on an adequate supply of fresh water is just as critical to our survival as a free Nation as is fuel and will require just as much long-range planning; and

WHEREAS, The development of western reserves of energy resources such as oil shale and coal, including coal slurry pipelines, will be crippled without the development of additional reliable sources of water; and

WHEREAS, Water problems in the western states will be drastically compounded as population continues to increase; and

WHEREAS, The legal concept of Federal versus State water rights, including the resolution of various Indian claims, is yet to be resolved and poses an unknown factor in our future water use formula; and

WHEREAS, The lower Colorado River is now the site of expensive desalinization efforts by our government to improve the quality of the water flowing into Mexico under our treaty obligations; and

WHEREAS, No serious study has been undertaken by our government as to the feasibility of importing water from Alaska and/or Canada to both the east and west sides of the Rocky Mountains; and

WHEREAS, The substantial cost of such an importation project would be more than offset by the benefits which are not quantifiable in dollars because such benefits would compound for centuries to come; now, therefore, be it

RESOLVED BY THE NEVADA LEGISLATURE'S COMMITTEE ON PUBLIC LANDS, That the Government of the United States (1) repeal the present moratorium on any study for the importation of water into the Colorado River Basin, with full protection against the net exportation of water from the Columbia River Basin; and (2) undertake an in-depth study of long-range water problems in the western United States; and be it further

RESOLVED, That copies of this resolution be transmitted to the President of the United States, the Secretary of State, the Secretary of the Interior, the Secretary of Agriculture, each member of the Nevada congressional delegation, the Chairman and Ranking Minority Member of the Senate Committee on Energy and Natural Resources, the Chairman and Ranking Minority Member of the House Committee on Interior and Insular Affairs, the Commissioner of the Bureau of Reclamation, the Administrator of the Environmental Protection Agency, the Assistant Secretary of the Army with jurisdiction over the Army Corps of Engineers, the governors of the 17 western reclamation states and the governor of Alaska.

Approved this 14 day of March, 1984.



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Senator Norman D. Glaser, Chairman

Nevada Legislature's Committee on Public Lands