

YA  
In 8/13 Senate - Interior & insular aff  
N 22/6  
8/13  
8/13  
8/13

NAVAJO INDIAN IRRIGATION PROJECT  
AND SAN JUAN-CHAMA PROJECT

GOVERNMENT  
Storage

HEARING  
BEFORE THE  
SUBCOMMITTEE ON  
IRRIGATION AND RECLAMATION

OF THE  
COMMITTEE ON  
INTERIOR AND INSULAR AFFAIRS  
UNITED STATES SENATE  
EIGHTY-SEVENTH CONGRESS  
FIRST SESSION

ON  
S. 107

A BILL TO AUTHORIZE THE SECRETARY OF THE INTERIOR TO CONSTRUCT, OPERATE, AND MAINTAIN THE NAVAJO INDIAN IRRIGATION PROJECT AND THE INITIAL STAGE OF THE SAN JUAN-CHAMA PROJECT AS PARTICIPATING PROJECTS OF THE COLORADO RIVER STORAGE PROJECT, AND FOR OTHER PURPOSES

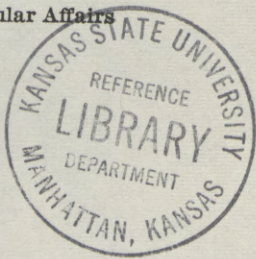
MARCH 15, 1961

Printed for the use of the Committee on Interior and Insular Affairs



U.S. GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1961

67239



Barcode with number 799601 009771 and a red checkmark

44  
12/8/13  
12/2/13

NAVALO INDIAN IRRIGATION PROJECT  
AND SAN JUAN-CHAMA PROJECT

HEARING

BEFORE THE

COMMITTEE ON IRRIGATION AND RECLAMATION

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

CLINTON P. ANDERSON, New Mexico, *Chairman*

- |                                  |                              |
|----------------------------------|------------------------------|
| HENRY M. JACKSON, Washington     | HENRY DWORSHAK, Idaho        |
| ALAN BIBLE, Nevada               | THOMAS H. KUCHEL, California |
| JOHN A. CARROLL, Colorado        | BARRY GOLDWATER, Arizona     |
| FRANK CHURCH, Idaho              | GORDON ALLOTT, Colorado      |
| ERNEST GRUENING, Alaska          | HIRAM L. FONG, Hawaii        |
| FRANK E. MOSS, Utah              | JACK R. MILLER, Iowa         |
| OREN E. LONG, Hawaii             |                              |
| QUENTIN N. BURDICK, North Dakota |                              |
| LEE METCALF, Montana             |                              |
| J. J. HICKEY, Wyoming            |                              |

RICHARD L. CALLAGHAN, *Staff Director*

STEWART FRENCH, *Chief Counsel*

JERRY T. VERKLER, *Clerk*

ROY WHITACRE, *Committee Assistant for Reclamation*

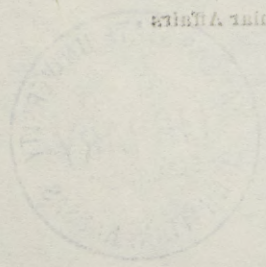
SUBCOMMITTEE ON IRRIGATION AND RECLAMATION

CLINTON P. ANDERSON, New Mexico, *Chairman*

- |                                  |                              |
|----------------------------------|------------------------------|
| HENRY M. JACKSON, Washington     | THOMAS H. KUCHEL, California |
| JOHN A. CARROLL, Colorado        | GORDON ALLOTT, Colorado      |
| QUENTIN N. BURDICK, North Dakota | HIRAM L. FONG, Hawaii        |
| J. J. HICKEY, Wyoming            |                              |

MARCH 13, 1961

Printed for the use of the Committee on Interior and Insular Affairs



# CONTENTS

S. 107-----	Page 1
Interior Department report on S. 107-----	5

## STATEMENTS

Bennett, Hon. Wallace F., a U.S. Senator from the State of Utah-----	13
Chavez, Hon. Dennis, a U.S. Senator from the State of New Mexico-----	13
Crow, John O., Acting Commissioner, Bureau of Indian Affairs-----	24
Dominy, Floyd E., Commissioner of Reclamation-----	17
Keesee, Gerald B., Chief, Branch of Land Operations, Bureau of Indian Affairs-----	25
Matthew, Raymond, chief engineer, Colorado River Board of California-----	50
McCabe, J. Maurice, executive director, Navajo Tribal Council; accompanied by Ned A. Hatathli, director of resources, and Howard W. Gorman, chairman of the Resources Committee of the Navajo Tribal Council-----	35
Reynolds, S. E., State engineer, and Claud Mann, special assistant attorney general, State of New Mexico-----	25
Sparks, Felix L., director, Colorado Water Conservation Board, before the House Committee on Interior and Insular Affairs-----	41
Udall, Hon. Stewart L., Secretary of the Interior; accompanied by Kenneth Holum, Assistant Secretary for Water and Power, and Floyd E. Dominy, Commissioner of Reclamation-----	10

## COMMUNICATIONS

Bennett, Elmer F., Acting Secretary of the Interior: Letter, dated November 16, 1960, to Congressman Aspinall-----	23
Bloomfield, N. Mex., Irrigation District, D. A. Martin, secretary: Letter, dated March 13, 1961, to Senator Anderson, containing a resolution-----	44
Elephant Butte Irrigation District, John L. Gregg, treasurer-manager: Letter, dated March 6, 1961, to Senator Anderson-----	46
San Juan County Farm & Livestock Bureau: Letter, dated March 13, 1961, to Senator Anderson, containing a resolution-----	47
Telegram to Senator Hickey-----	12

## ADDITIONAL INFORMATION

Draft of bill, containing changes proposed by S. E. Reynolds-----	27
Excerpts from report of Special Master Simon H. Rifkind, before the Supreme Court-----	64



# NAVAJO INDIAN IRRIGATION PROJECT AND SAN JUAN-CHAMA PROJECT

WEDNESDAY, MARCH 15, 1961

U.S. SENATE,  
SUBCOMMITTEE ON IRRIGATION AND RECLAMATION  
OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,  
*Washington, D.C.*

The subcommittee met at 10 a.m. in room 3110, Senate Office Building, Hon. Clinton P. Anderson (chairman of the committee and of the subcommittee) presiding.

Present: Senators Clinton P. Anderson, New Mexico; John A. Carroll, Colorado; Frank Church, Idaho; J. J. Hickey, Wyoming; Henry Dworshak, Idaho; Thomas H. Kuchel, California; and Hiram L. Fong, Hawaii.

Also present: Jerry T. Verkler, clerk, and Roy Whitacre, committee assistant for reclamation.

The CHAIRMAN. The subcommittee will be in order. We have before our subcommittee this morning two bills. The first to be considered is S. 107, to authorize the Secretary of the Interior to construct, operate, and maintain the Navajo Indian irrigation project and the initial stage of the San Juan-Chama project as participating projects of the Colorado River storage project.

(S. 107 and the report of the Interior Department follows:)

[S. 107, 87th Cong., 1st sess.]

A BILL To authorize the Secretary of the Interior to construct, operate, and maintain the Navajo Indian irrigation project and the initial stage of the San Juan-Chama project as participating projects of the Colorado River storage project, and for other purposes

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That, for the purposes of furnishing water for irrigation of irrigable and arable lands, municipal, domestic and industrial uses (and for other beneficial purposes), providing recreation and fish and wildlife benefits, controlling silt, the Congress hereby approves as participating projects of the Colorado River storage project the Navajo Indian irrigation project, New Mexico, and the initial stage of the San Juan-Chama project, Colorado-New Mexico as conditioned, modified, and limited herein. Principal engineering works of the Navajo Indian irrigation project shall be a main gravity canal, tunnels, siphons, pumps, and powerplants for project purposes, laterals, drains, distribution systems and related works. The initial stage of the San Juan-Chama project facilities shall be comprised principally of regulating and storage reservoirs, collection, diversion and conveyance systems, and associated works.

The Navajo Indian irrigation project and the initial stage of the San Juan-Chama project herein approved are substantially those described in the proposed coordinated report of the Acting Commissioner of Reclamation and the Commissioner of Indian Affairs, approved and adopted by the Secretary of the Interior on October 16, 1957, as conditioned, modified, and limited herein.

SEC. 2. Pursuant to the provisions of the Act of April 11, 1956 (70 Stat. 105), the Secretary of the Interior is authorized to construct, operate, and maintain

the Navajo Indian irrigation project for the principal purpose of furnishing irrigation water to approximately one hundred and ten thousand six hundred and thirty acres of land, said project to have an average annual diversion of five hundred and eight thousand acre-feet of water, the repayment of the costs of construction thereof to be in accordance with the provisions of said Act of April 11, 1956 (70 Stat. 105), including, but not limited to, section 4(d) thereof.

SEC. 3. (a) In order to provide for the most economical development of the Navajo irrigation project, the Secretary of the Interior is hereby authorized and directed to declare by publication in the Federal Register that the United States of America holds in trust for the Navajo Tribe of Indians any legal subdivisions or unsurveyed tracts of federally owned land outside the present boundary of the Navajo Indian Reservation in New Mexico in townships 28 and 29 north, ranges 10 and 11 west, and townships 27 and 28 north, ranges 12 and 13 west, New Mexico principal meridian, susceptible to irrigation as part of the Navajo Indian irrigation project or necessary for location of any of the works or canals of such project: *Provided, however*, That no such legal subdivision or unsurveyed tract shall be so declared to be held in trust by the United States for the Navajo Tribe until the Navajo Tribe shall have paid the United States the full appraised value thereof: *And provided further*, That in making appraisals of such lands the Secretary of the Interior shall consider their values as of the date of approval of this Act, excluding therefrom the value of minerals subject to leasing under the Act of February 25, 1920, as amended (30 U.S.C. 181-286), and such leasable minerals shall not be held in trust for the Navajo Tribe and shall continue to be subject to leasing under the Act of February 25, 1920, as amended, after the lands containing them have been declared to be held in trust by the United States for the Navajo Tribe.

(b) The Navajo Tribe is hereby authorized to convey to the United States, and the Secretary of the Interior is hereby directed to accept on behalf of the United States, title to any land or interest in land within the above-described townships, susceptible to irrigation as part of the Navajo Indian irrigation project or necessary for location of any of the works or canals of such project, acquired in fee simple by the Navajo Tribe, and after such conveyance said land or interest in land shall be held in trust by the United States for the Navajo Tribe as a part of the Navajo Indian irrigation project.

(c) The Secretary of the Interior is hereby authorized and directed to acquire by purchase, exchange, or condemnation any other land or interest in land within the townships above described susceptible to irrigation as part of the Navajo Indian irrigation project or necessary for location of any of the works or canals of such project. After such acquisition, said lands or interest in lands shall be held by the United States in trust for the Navajo Tribe of Indians and the price of such lands or interest in lands or of the land given in exchange therefor by the United States shall be charged to funds of the Navajo Tribe of Indians on deposit in the Treasury of the United States.

SEC. 4. In developing the Navajo Indian irrigation project, the Secretary is authorized to provide capacity for municipal and industrial water supplies or miscellaneous purposes over and above the diversion requirements for irrigation stated in section 2 of this Act. But such additional capacity shall not be constructed and no appropriation of funds for such construction shall be made unless, prior thereto, contracts have been executed which, in the judgment of the Secretary, provide satisfactory assurance of repayment of all costs properly allocated to the purposes aforesaid with interest as provided by law.

SEC. 5. Payment of operation and maintenance charges of the irrigation features of the Navajo Indian irrigation project shall be in accordance with the provisions of the Act of August 1, 1914 (38 Stat. 582, 583), as amended by the Act of August 7, 1946 (60 Stat. 867): *Provided*, That the Secretary of the Interior in his discretion may transfer to the Navajo Tribe of Indians the care, operation, and maintenance of all or any part of the Navajo Indian irrigation project works, subject to such rules and regulations as he may prescribe, and, in such event, the Secretary may transfer to the Navajo Tribe title to movable property necessary to the operation and maintenance of project works.

SEC. 6. Pursuant to the provisions of the Act of April 11, 1956 (70 Stat. 105), the Secretary of the Interior is authorized to construct, operate, and maintain the initial stage of the San Juan-Chama project, Colorado-New Mexico, for the principal purposes of furnishing water supplies to approximately thirty-nine thousand three hundred acres of land in Cerro, Taos, Llano, and Pojoaque tributary irrigation units in the Rio Grande Basin, about eighty-one thousand six hundred

acres of land in the existing Middle Rio Grande Conservancy District, and municipal, domestic, and industrial uses, and providing recreation and fish and wildlife benefits. Said construction and operation of the diversion facilities of the initial stage authorized herein shall include only natural flow of the Navajo, Little Navajo, and Blanco Rivers in Colorado as set forth in the supplemental project report dated May 1957. Principal engineering works of the initial stage development involving three major elements, shall include diversion dams and conduits, storage and regulation facilities at the Heron Numbered 4 Reservoir site and enlargement of outlet works of the existing El Vado Dam, and water use facilities consisting of reservoirs, dams, canals, lateral and drainage systems, and associated works and appurtenances. The construction of recreation facilities at the Nambe Reservoir shall be contingent upon the Secretary's making appropriate arrangements with the governing body of the Nambe Pueblo for the operation and maintenance of such facilities, and the construction of recreation facilities at the Heron Numbered 4, Valdez, and Indian Camp Reservoirs and shall be contingent upon the Secretary's making appropriate arrangements with a State or local agency or organization for the operation and maintenance of those facilities; *Provided, That—*

(a) the Secretary of Interior shall so operate the initial stage of the project authorized herein that diversions to the Rio Grande Valley shall not exceed one million three hundred and fifty thousand acre-feet of water in any period of ten consecutive years, reckoned in continuing progressive series starting with the first day of October after the project shall have commenced operation;

(b) the Secretary of Interior shall operate the project so that there shall be no injury, impairment, or depletion of existing or future beneficial uses of water within the State of Colorado, the use of which is within the apportionment made to the State of Colorado by article III of the Upper Colorado River Basin compact, as provided by article IX of the Upper Colorado River Basin compact and article IX of the Rio Grande compact;

(c) all works of the project shall be constructed so as to permit compliance physically with all provisions of the Rio Grande compact, and all such works shall be operated at all times in conformity with the Rio Grande compact;

(d) the amount of water diverted in the Rio Grande Basin for uses served by the San Juan-Chama project shall be limited in any calendar year to the amount of imported water available to such uses from importation to and storage in the Rio Grande Basin in that year;

(e) details of project operation essential to the accounting of diverted San Juan and Rio Grande flows shall be cooperatively developed through the joint efforts of the Rio Grande Compact Commission, the appropriate agencies of the United States and of the States of Colorado, New Mexico, and Texas, and the various project entities. In this connection the States of Texas and New Mexico shall agree, within a reasonable time, on a system of gaging devices and measurements to secure data necessary to determine the present effects of tributary irrigation, as well as present river channel losses: *Provided, That* if the State of Texas shall require, as a precedent to such agreement, gaging devices and measurements in addition to or different from those considered by the Department of the Interior and the State of New Mexico to be necessary to this determination, the State of Texas shall pay one-half of all costs of constructing and operating such additional or different devices and making such additional or different measurements which are not borne by the United States. The results of the action required by this subsection shall be incorporated in a written report transmitted to the States of Colorado, Texas, and New Mexico for comment in the manner provided in the Flood Control Act of 1944, before any appropriation shall be made for project construction;

(f) the Secretary of the Interior shall operate the project so that for the preservation of fish and aquatic life the flow of the Navajo River and the flow of the Blanco River shall not be depleted at the project diversion points below the values set forth at page D2-7 of appendix D of the United States Bureau of Reclamation report entitled "San Juan-Chama Project, Colorado-New Mexico", dated November 1955;

(g) the Secretary of the Interior is hereby authorized to construct the tunnel and conduit works of the initial stage of the San Juan-Chama project with sufficient capacity for future diversion of an average of two hundred

and thirty-five thousand acre-feet per annum, and to recognize the cost of providing such additional capacity as a deferred obligation to be paid at such time as the additional capacity may be required: *Provided, however*, That nothing contained in this Act shall be construed as committing the Congress of the United States to future authorization of any additional stage of the San Juan-Chama project.

SEC. 7. (a) No person shall have or be entitled to have the use for any purpose, including uses under the Navajo Indian irrigation project and the San Juan-Chama project authorized by sections 2 and 6 of this Act, of water stored in Navajo Reservoir or of any other waters of the San Juan River and its tributaries originating above Navajo Reservoir to the use of which the United States is entitled under these projects except under contract satisfactory to the Secretary of the Interior and conforming to the provisions of his Act. Such contracts, which, in the case of water for Indian uses, shall be executed with the Navajo Tribe, shall make provisions, in any year in which the Secretary anticipates a shortage taking into account both prospective runoff originating above Navajo Reservoir and the available water in storage in Navajo Reservoir, for a sharing of the available water in the following manner: The prospective runoff shall be apportioned between the contractors diverting above and those diverting at or below Navajo Reservoir in the proportion that the total normal diversion requirement of each group bears to the total of all normal diversion requirements. In the case of contractors diverting above Navajo Reservoir, each such contract shall provide for a sharing of the runoff apportioned to said group in the same proportion as the normal diversion requirement under said contract bears to the total normal diversion requirements of all such contracts that have been made hereunder: *Provided*, That for any year in which the foregoing sharing procedure either would apportion to any contractor diverting above Navajo Reservoir an amount in excess of the runoff anticipated to be physically available at the point of his diversion, or would result in no water being available to one or more such contractors, the runoff apportioned to said group shall be reapportioned as near as may be among the contractors diverting above Navajo Reservoir in the proportion that the normal diversion requirements of each bears to the total normal diversion requirements of the group. In the case of contractors diverting from or below Navajo Reservoir, each such contract shall provide for a sharing of the remaining runoff together with the available storage in the same proportion as the normal diversion requirement under said contract bears to the total normal diversion requirements under all such contracts that have been made hereunder.

The Secretary shall not enter into contracts beyond a total amount of water that, in his judgment, in the event of shortage will result in a reasonable amount being available for the diversion requirements for the Navajo Indian irrigation project and the initial stage of the San Juan-Chama project as specified in sections 2 and 6 of this Act.

(b) In the event contracts are entered into for delivery from storage in Navajo Reservoir of water not covered by subsection (a) of this section, such contracts shall be subject to the same provision for sharing of available water supply in the event of shortage as in the case of contracts required to be made pursuant to subparagraph (a) of this section.

(c) This section shall not be applicable to the water requirements of the existing Fruitland, Hogback, Cudai, and Cambridge Indian irrigation projects, nor to the water required in connection with the extension of the irrigated acreages of the Fruitland and Hogback Indian irrigation projects in a total amount of approximately eleven thousand acres.

SEC. 8. (a) None of the project works, or structures authorized by this Act shall be operated by the Secretary of the Interior so as to create, implement or satisfy any preferential right in the United States or any Indian tribe to the waters impounded, diverted or used by means of such project works or structures, other than contained in those rights to the uses of water granted to the States of New Mexico or Arizona pursuant to the provisions of the Upper Colorado River Basin Compact.

(b) The Secretary of the Interior shall operate the projects authorized by this Act so that no waters shall be diverted or used by means of the project works, which, together with all other waters used in or diverted from the San Juan River Basin in New Mexico, will exceed the water available to the States of New Mexico and Arizona under the allocation contained in article III of the Upper Colorado River Basin compact for any water year.

SEC. 9. Section 12 of the Act of April 11, 1956 (70 Stat. 105), shall not apply to the works authorized by this Act. There are hereby authorized to be appropriated out of any moneys in the Treasury not otherwise appropriated, such funds as may be required to carry out the purposes of this Act, but not to exceed \$221,000,000 (January 1958 prices) plus such amounts, if any, as may be required by reason of changes in construction costs as indicated by engineering cost indexes applicable to the types of construction involved therein and, in addition thereto, such sums as may be required to operate and maintain the projects.

SEC. 10. The Act of April 11, 1956 (70 Stat. 105) is hereby amended as follows: (i) In section 1, subsection (2), after "Central Utah (initial phase)" delete the colon and insert in lieu thereof a comma; (ii) in section 5, subsection (e) in the phrase "herein or hereinafter authorized" delete the word "hereinafter" and insert in lieu thereof the word "hereafter"; (iii) in section 7 in the phrase "and any contract lawfully entered unto under said compacts and Acts" delete the word "unto" and insert in lieu thereof the word "into."

---

U.S. DEPARTMENT OF THE INTERIOR,  
OFFICE OF THE SECRETARY,  
Washington, D.C., March 14, 1961.

Hon. CLINTON P. ANDERSON,  
*Chairman, Committee on Interior and Insular Affairs,  
U.S. Senate, Washington, D.C.*

DEAR SENATOR ANDERSON: This responds to your request for the views of this Department on S. 107, a bill "To authorize the Secretary of the Interior to construct, operate, and maintain the Navajo Indian irrigation project and the initial stage of the San Juan-Chama project as participating projects of the Colorado River storage project, and for other purposes."

This Department recommends the enactment of this bill together with minor suggested amendments.

The bill would approve the Navajo Indian irrigation project and the initial stage of the San Juan-Chama project as participating projects of the authorized Colorado River storage project and authorize their construction by the Secretary of the Interior. The coordinated planning report on the Navajo Indian irrigation project and the San Juan-Chama project, prepared jointly by the Commissioner of Indian Affairs and the Commissioner of Reclamation, has been submitted to the Congress and printed as House Document No. 424, 86th Congress.

S. 107 is consistent with our understanding of agreements reached between representatives of the States of Colorado and New Mexico for such legislation at the time of the hearings held on May 20, 1960, before the House Subcommittee on Irrigation and Reclamation, 86th Congress, 2d session, on H.R. 2352, H.R. 2494, and S. 72.

The proposed plan of development for the Navajo Indian irrigation project contemplates the construction of facilities to provide a water supply for the irrigation of lands to be developed solely for Indian use. The conservation and development of fish and wildlife would be a purpose of the project. The plan would not provide specific works for recreation or flood control.

Prior to construction of the project, studies of incremental canal capacity would be made to determine the feasibility of conveying domestic and industrial water supplies for potential requirements as recommended in the planning report. Officials of the State of New Mexico anticipate that a relatively large industrial water demand will develop in the San Juan River Basin. This would be accompanied by associated water requirements for municipal, domestic, and miscellaneous purposes in the adjacent areas. Prospective municipal and industrial water users have already expressed interest in receiving water from the proposed Navajo Canal and have approached the Department in that regard. Section 4 of the bill would authorize the provision of additional capacity for such purposes over and above the diversion requirements for irrigation on the Navajo Indian irrigation project.

Water for irrigation of the lands proposed to be included in the Navajo Indian irrigation project would be diverted from Navajo Reservoir which is now under construction as a storage unit of the Colorado River storage project. A main gravity canal would extend from Navajo Dam a distance of 75.6 miles to Gal-

legos powerplant. There the water would be dropped to develop electrical energy for pumping water to lands in the Newcomb and Bennett Peak areas of the project. The main canal would extend an additional 77 miles beyond the powerplant to serve project lands.

A net area of 110,630 acres of irrigable land has been proposed for development. The area would include off-reservation lands to be acquired in the South San Juan division and Navajo Indian Reservation lands in the Shiprock division. Section 3 of the bill would provide authority for the acquisition and addition of the off-reservation lands to the proposed project. The project's productive area, which would exclude farmsteads and other nonproductive areas within farm units, would comprise (a) 8,918 acres served by gravity below the main canal in the South San Juan division and 70,359 acres in the Shiprock division, and (b) 25,882 acres served from the pump canals in the Shiprock division, or a total of about 105,100 acres. An average annual diversion of about 508,000 acre-feet of water from San Juan River would be required for that purpose. This would result in an average annual stream depletion of about 252,000 acre-feet, exclusive of reservoir losses.

The estimated construction cost of the proposed Navajo Indian irrigation project is \$135 million on the basis of January 1958 prices which reflect present prices. Operation, maintenance, and replacement costs are estimated to average about \$481,000 annually at January 1958 prices. The benefit-cost ratio for the project would be 0.64 to 1 on the basis of direct irrigation benefits only, and 1.44 to 1 on the basis of total irrigation benefits. The appraisal of annual economic costs includes the \$2 per acre-foot depletion charge of the storage project assigned to all participating projects for all benefit cost ratio purposes.

As provided by sections 4(d) and 6 of the Colorado River Storage Project Act of April 11, 1956 (70 Stat. 105), authorizing the Colorado River storage project and participating projects, in the event the Navajo participating project is authorized, payment of costs allocated to irrigation of Indian-owned, tribal or restricted lands within, under, or served by such project within the capability of the land to repay is subject to the act of July 1, 1932 (47 Stat. 564); the costs beyond the capability of such lands to repay are to be determined and, in recognition of the fact that assistance to the Navajo Indians is the responsibility of the entire Nation, shall be nonreimbursable.

The coordinated report on these two proposed projects presents a comprehensive plan of development for the San Juan-Chama project including a plan for development of an initial stage of the project as proposed for authorization in S. 107. The plan for ultimate development of the San Juan-Chama project is designed to improve and stabilize the economy of the water-deficient Rio Grande and Canadian River Basins of New Mexico by providing supplemental water to meet rapidly increasing needs. This would be accomplished by diverting water from the upper tributaries of the San Juan River. The water would be used for supplemental irrigation, for replacement of watershed depletions in the Rio Grande Basin, and for an additional supply for municipal, domestic, and industrial purposes. Recreation and conservation and development of fish and wildlife would also be purposes of the project. On the basis of January 1958 prices, the estimated construction cost for the project facilities studied in the plan of development is about \$149 million. The evaluated total annual benefits for such a development would exceed the estimated annual costs in a ratio of about 1.7 to 1.

The proposed plan for the initial stage development of the San Juan-Chama project, as recommended by the State of New Mexico, contemplates an average annual diversion of about 110,000 acre-feet from the San Juan River for utilization in the Rio Grande in New Mexico. The imported waters would be used for municipal and industrial water supply (57,300 acre-feet) for the city of Albuquerque; new and supplemental irrigation water supply (30,100 acre-feet) to about 39,300 acres of land in the Cerro, Taos, Llano, and Pajoque tributary irrigation units in the Rio Grande Basin, New Mexico; and supplemental water (22,600 acre-feet) for about 81,600 acres of irrigable land in the existing Middle Rio Grande Conservancy District. Recreation and conservation and development of fish and wildlife would also be purposes of the initial stage of development.

The proposed plan of development for the initial stage would involve three major elements, namely, diversion facilities (diversion dams and conduits), regulation facilities (Heron No. 4 Dam and Reservoir, and enlargement of outlet works of the existing El Vado Dam), and water use facilities (princi-

pally for the tributary irrigation units). Minimum basic recreation facilities would also be provided at the five project reservoirs.

The estimated construction cost of the project features of the proposed initial stage, on the basis of January 1958 prices that reflect current price levels, is \$86 million, which includes about \$400,000 for minimum basic recreation facilities. Project operation, maintenance, and replacement costs are estimated at about \$346,000 annually. Of the estimated project construction costs, reimbursable allocations of about \$29,200,000 have been made tentatively to municipal and industrial water supply, \$53,400,000 to irrigation, and \$3 million to future uses. The recreation costs would be nonreimbursable. The proposed initial stage development would have engineering feasibility and would be economically justified in that the evaluated total benefits would exceed the estimated annual costs in a ratio of 1.26 to 1 for a 100-year period of analysis. If direct benefits only are considered in a 50-year period of analysis, that ratio would be about 0.81 to 1.

Costs allocated to municipal and industrial water supply, including interest during construction, would be repaid over a 50-year period with interest on the unamortized balance. Using an interest rate of 2.632 percent in accordance with the current rate under the Colorado River Storage Project Act of April 11, 1956, as amended by the act of June 27, 1960, the total to be paid by the municipal and industrial water users would be about \$55,622,000. The cost of raw municipal and industrial water would be about 7.3 cents per 1,000 gallons, or about \$24 per acre-foot.

This estimated municipal and industrial water rate would apply to water developed by initial stage construction. Repayment contract terms and water rates under subsequent development would be subject to reexamination as plans develop and additional quantities of municipal and industrial water would be contracted. Where necessary, in the adequate financing of any subsequent development, water rates and repayment provisions could be designed to reflect any significant change in municipal and industrial use, operation, and maintenance costs associated therewith and other relevant considerations.

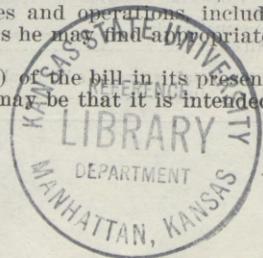
Irrigation water users probably would repay about \$8 million of the allocation to irrigation. Repayment contracts would be negotiated and entered into with organizations of the type provided in section 4 of the Colorado River Storage Project Act of April 11, 1956, for contracting on the participating projects authorized by section 1 of that act. The costs allocated to irrigation in excess of the irrigators' ability to repay would be paid from New Mexico's apportionment of the Upper Colorado River Basin Fund revenues as provided in the act. Costs allocated to future uses, which would involve the provisions of excess capacity in the initial stage to permit later project expansion would also be an obligation against New Mexico's share of the basin fund revenues, to be paid from that apportionment if not otherwise collected as a result of subsequent allocations to the water users.

Authorization of an irrigation development such as the proposed Navajo Indian irrigation project would implement the recognition given in the act of April 11, 1956, of the Nation's responsibility to help alleviate the severe economic distress among the Navajo people by providing them an opportunity to earn a respectable standard of living. It would enable an estimated 1,120 families to establish homes on irrigated farms and would create employment for an additional 2,240 families. The proposed project has the support of the Navajo Indian Tribe and an on-the-farm training program, financed with tribal funds, is in operation to prepare members of the tribe for irrigation farming.

A development such as that which is embraced in the initial stage of the proposed San Juan-Chama project would help materially to meet the pressing need for additional supplies of water in the Rio Grande Basin where present requirements have reached the point where they far exceed available supplies. This need of the Rio Grande Basin vitally affects the welfare of more than half of the population of New Mexico and, if it is not satisfied in the near future, threatens to check the economic development of the State.

The Secretary's planning report on these projects recommends that detailed studies of fish and wildlife resources affected by both projects be conducted in accordance with section 2 of the Fish and Wildlife Coordination Act, and that such reasonable modifications in project facilities and operations, including the acquisition of land, be made by the Secretary as he may find appropriate to preserve and propagate these resources.

We recommend against the retention of section 8(a) of the bill in its present form. The language of this section is not clear. It may be that it is intended



to reaffirm the provisions of article VII of the Upper Colorado River Compact which charges water used by the United States or its agencies, instrumentalities, or wards to the State in which the use occurs. If this is all the language does, it would have no adverse effect on the operation of the Navajo Reservoir or either project to be authorized by S. 107, as each of them has been planned within the framework of the compact. If this is the intent, we believe that the section should either be couched in the same terms as Article VII of the compact or, since it is unnecessary, be deleted entirely. If it does something more, or limits or restricts the rights of the Indians to the water, its inclusion in the bill is then improper.

In this title of the bill the word "state" should be changed to "stage".

The citation appearing in lines 4 and 5 of page 6 should be corrected by adding after the second comma, the following "as amended by section 9 of the act of June 27, 1960 (74 Stat. 227)."

A statement of personnel and other requirements that enactment of the bill may entail is attached in accordance with the provisions of Public Law 801, 84th Congress.

The Bureau of the Budget has advised this Department that since the policy of the administration has not been established, it is impossible for that Bureau to clear any report at this time. Since we are informed that there is a particular urgency for the submission of the views of this Department, we are transmitting this report to your committee without clearance from the Bureau of the Budget.

Sincerely yours,

STEWART L. UDALL,  
*Secretary of the Interior.*

CONSTRUCTION OF THE NAVAJO INDIAN IRRIGATION PROJECT—NAVAJO INDIAN RESERVATION, N. MEX.

*Estimated additional man-years of civilian employment and expenditures for the 1st 5 years of proposed new or expanded programs*

	1st year	2d year	3d year	4th year	5th year
ESTIMATED ADDITIONAL MAN-YEARS OF CIVILIAN EMPLOYMENT					
Executive direction:					
Executive.....	1	1	1	1	1
Clerical.....	1	1	1	1	1
Stenographic.....	1	1	1	1	1
Total, executive direction.....	3	3	3	3	3
Administrative services and support:					
Accountant.....		1	1	1	1
Budget.....		1	1	1	1
Clerical.....	3	5	10	10	10
Personnel.....		1	1	1	1
Property management.....		3	3	3	3
Total, administrative services and support.....	3	11	16	16	16
Substantive (program):					
Soil scientists.....	6	6			
Soil scientists aids.....	12	12			
Laboratory technicians.....	4	4			
Engineering aids.....	30	30	40	40	40
Engineers.....	5	10	10	10	10
Geologist.....	1	1	1	1	1
Agriculturalist economist.....	1	1	1		
Total, substantive.....	59	64	52	51	51
Total, estimated additional man-years of civilian employment.....	65	78	71	70	70
ESTIMATED ADDITIONAL EXPENDITURES					
Personal services.....	\$372,000	\$458,000	\$412,000	\$413,000	\$414,000
All other.....	388,000	6,942,000	7,988,000	9,987,000	10,986,000
Total, estimated additional expenditures.....	760,000	7,400,000	8,400,000	10,400,000	11,400,000

CONSTRUCTION ON THE INITIAL STAGE OF THE SAN JUAN-CHAMA PROJECT,  
COLORADO-NEW MEXICO

*Estimated additional man-years of civilian employment and expenditures for  
1st 5 years of proposed new or expanded programs*

	1st year	2d year	3d year	4th year	5th year
ESTIMATED ADDITIONAL MAN-YEARS OF CIVILIAN EMPLOYMENT					
Executive direction:					
Executive.....	1	1	1	1	1
Clerical.....	1	1	1	1	1
Stenographic.....	1	1	1	1	1
Total, executive direction.....	2	3	3	3	3
Administrative services and support:					
Accountant.....		1	2	2	2
Budget.....		1	2	2	2
Clerical.....	3	8	20	20	20
Personnel.....		1	2	2	2
Property management.....		3	4	4	4
Total, administrative services and support.....	3	14	30	30	30
Substantive (program):					
Engineering aids.....	11	44	114	134	114
Engineers.....	5	20	52	57	52
Geologists.....	1	1	1	1	1
Total, substantive.....	17	65	167	192	167
Total estimated additional man- years of civilian employment.....	22	82	200	225	200
ESTIMATED ADDITIONAL EXPENDITURES					
Personal services.....	\$150,000	\$570,000	\$1,300,000	\$1,460,000	\$1,300,000
All other.....	400,000	1,030,000	16,500,000	35,540,000	26,554,000
Total, estimated additional expendi- tures.....	550,000	1,600,000	17,800,000	37,000,000	27,854,000

The CHAIRMAN. S. 107 is substantially the same as S. 3648 of the 85th Congress, and S. 72 of the 86th Congress in that they all three authorize the construction of the Navajo Indian irrigation project and the initial phase of the San Juan-Chama diversion projects in New Mexico. Hearings were held on S. 3648 on July 9-10, 1958. The bill was reported by Senate Report 2198, dated August 5, 1958, and was passed by the Senate August 15, 1958. Hearings were held on S. 72, March 16, 1959. The bill was reported by the Senate Interior Committee by Report 155, April 8, 1959, and the bill passed the Senate May 19, 1959. Hearings were held in the House Irrigation and Reclamation Subcommittee on May 20, 1960.

The second bill is S. 66, to authorize the Secretary of the Interior to construct, operate, and maintain a reregulating reservoir and other works at Burns Creek site in the upper Snake River Valley, Idaho. This bill is identical to S. 2757 of the 85th Congress, which superseded S. 145 and S. 2089, to authorize the Burns Creek Dam and powerplant, Idaho.

Hearings were held on S. 145 and S. 2089 on May 27, 1957. S. 281 was introduced in the 86th Congress to authorize the project, and hearings were held on March 16, 1959. S. 281 was reported by the Senate Interior Committee by Report 439, on June 25, 1959, and the bill passed the Senate July 24, 1959.

As I have pointed out, the Committee on Interior and Insular Affairs has recommended the passage of bills substantially the same as those now before us, and such bills were passed by the Senate during the 86th Congress.

Witnesses will be recognized to present material which I hope does not appear in previous hearings. Written statements will be welcome and will be inserted in the record.

We have no desire to stop any witness from presenting pertinent data and views on either of the bills under consideration. I point out that the record, to a large extent, has been made on each of the proposals. However, any pertinent deviations of existing conditions from those appearing at previous hearings should be pointed out in order to have the record as accurate as possible.

Witnesses who desire to be heard and have not given their names to the committee, are requested to contact the committee assistant for reclamation in order that the Chair may add their names to the list of witnesses.

In connection with S. 107, the Navaho San Juan-Chama bill, I call attention to the fact that construction is well along the way on the Navajo Dam to store 1,700,000 acre-feet of water for the Navajo irrigation project and possibly for municipal purposes for the city of Gallup and other communities. The project will have a net irrigated acreage of 110,630 acres of land, raising principally alfalfa, pasture small grains, and livestock for the Navajo Indians.

The San Juan-Chama diversion project is approved in the bill, but only the initial phase of the development is authorized. This development will provide additional water for and aid in the regulation of the Rio Grande River for irrigation and assure water supplies for Farmington, Albuquerque, and other downstream cities, as well as national defense installations.

These developments were contemplated when the upper Colorado River storage project was authorized in 1955.

On October 16, 1957, the Secretary of the Interior approved and adopted the coordinated report on these two projects recommended by the Bureau of Reclamation and Office of Indian Affairs. The findings of this report, sanctioned by the Secretary, constituted a basis for the committee's action on S. 3648 of the 85th Congress, and S. 72 of the 86th.

I am happy to report that the new administration concurs in the recommendations for the authorization of the projects, and recommends that S. 107 be enacted.

Now, Mr. Secretary, you are scheduled to be the first witness. You may proceed, Mr. Udall.

**STATEMENT OF HON. STEWART L. UDALL, SECRETARY OF THE INTERIOR, ACCOMPANIED BY KENNETH HOLUM, ASSISTANT SECRETARY FOR WATER AND POWER, AND FLOYD E. DOMINY, COMMISSIONER OF RECLAMATION**

Secretary UDALL. Mr. Chairman, I have with me Mr. Holum, the Assistant Secretary for Water and Power, and Mr. Dominy, the Commissioner.

Both of these bills that the committee scheduled this morning are retreads as far as this committee is concerned. You have worked them

over in past sessions and refined them, and they are the type of bills that we hope this committee can act very speedily on.

I am delighted to appear before this committee in support of S. 107 to authorize the Navajo Indian irrigation project and the initial stage of the San Juan-Chama project as participating projects of the Colorado River storage project, and S. 66 to authorize the Burns Creek Dam, reservoir, and powerplant as an integral part of the Palisades project.

It is particularly fitting that these projects should receive attention at this time, immediately after President Kennedy's noteworthy special message on natural resources to the Congress. Each one fits the pattern for the wise and beneficial development of natural resources that the President laid out to guide his administration. Each one provides opportunity for a resource program investment today that will return dividends manyfold tomorrow.

Resting before you is the Department of the Interior's report on the Navajo Indian irrigation project and the San Juan-Chama project. It is a coordinated report combining reports prepared by the Commissioner of Indian Affairs and the Commissioner of Reclamation, transmitted to the Congress on June 16, 1960, and printed as House Document No. 424. It contains the results of many years of detailed investigations that have led to the recommendation that these projects be authorized and constructed. Within that report are to be found the figures and facts that establish the physical and financial feasibility of these projects and their economic justification.

The primary justification for the development of the Navajo project stems from the urgent need for expanded economic opportunity for the people living within and immediately adjacent to the project area. The Federal Government for many years has been faced with the problem of providing a solution for the betterment of the economic conditions of a rapidly increasing Navajo population, now numbering about 85,000. The continued drought condition, with the attendant reduction in returns from livestock operations in the area, and the lack of employment opportunities, have resulted in steadily declining economic conditions for the Navajo population.

The Navajo Indian irrigation project, by providing for irrigation of 110,000 acres of land within and adjacent to the Navajo Indian Reservation, would give a powerful economic shot in the arm to this area. It would create 1,120 new farms for Navajo families. The development of the project lands would also bring into the area the associated and allied industries of agriculture such as canning factories, cold storage package plants, creameries, and so forth, which would provide, we calculate, a livelihood for an additional 2,240 Navajo families.

Altogether, it is estimated that the Navajo project would provide the economic livelihood for some 18,000 to 20,000 Navajo people. Although this, in itself, will not solve the entire Navajo problem, it will be long stride in that direction.

The initial stage of the San Juan-Chama project will spread its benefits on the eastern slope of the Rockies in the Rio Grande Basin in New Mexico. It will accomplish several objectives. Principal among them would be (1) providing urgently needed additional water for lands in areas tributary to the Rio Grande that have been centers

of economic distress, (2) supplementing the water supply of the highly important Middle Rio Grande project, and (3) providing additional water for the rapidly growing requirements of Albuquerque and defense establishments of the Rio Grande Basin. Similar to the Navajo project, it will be a strong economic stimulant to the Rio Grande Basin of New Mexico.

The economic effects of constructing both of these projects are by no means limited to the immediate areas they benefit. Both during their construction and during their life they create new markets for goods and products flowing from every part of the nation.

The Burns Creek proposal now before you, like the San Juan-Chama and Navajo projects, is a proposal to develop a natural resource for its most efficient beneficial use. Burns Creek is a natural adjunct to the existing Palisades Dam and Reservoir. It will provide much needed supplemental water for irrigation and will make possible the realization of the full potential of the Palisades project.

It has the full support and endorsement of this administration.

My reports to this committee on S. 107 and S. 66 urge favorable consideration of both measures. I again urge their enactment.

Let me say, Mr. Chairman, that we certainly welcome the action of this committee in making as its first order of business these two projects, which affect different areas of the West and, at the same time, are symbols of proper resource development. And we in the administration welcome and applaud this action by the committee. We hope these bills move along as rapidly as possible.

The CHAIRMAN. Are there questions of the Secretary?

Thank you very much.

I know how busy you are, and if you need to get back to your responsibilities, feel free to do so.

Secretary UDALL. I thank you very much, and I will leave my yeomen here to do duty if necessary.

The CHAIRMAN. Before I go further, I see a telegram here which was sent to Senator Hickey.

The San Juan County Farm and Livestock Bureau wish to call to your attention testimony pertaining to the San Juan-Chama diversion which has been forwarded to the Senate Interior and Insular Affairs Committee meeting March 15, 1961.

It appears that we will not be allowed to testify personally.

We would appreciate your support and consideration in having said testimony considered and read into the committee hearing.

SAN JUAN COUNTY FARM AND LIVESTOCK BUREAU.

Is there anyone here from the San Juan County Farm and Livestock Bureau?

So far as we know, the committee has never received any testimony from the San Juan County Farm and Livestock Bureau, and I wish to say at the outset that nobody has refused the San Juan County Farm and Livestock Bureau the right to testify, personally or impersonally. I am shocked at the telegram. I cannot believe it.

I do want to say that no testimony is before the committee from the group, but, if it does appear, it will be received and given due consideration.

We will now hear a short statement from Senator Bennett of Utah. Senator, you may proceed.

**STATEMENT OF HON. WALLACE F. BENNETT, A U.S. SENATOR FROM  
THE STATE OF UTAH**

Senator BENNETT. Mr. Chairman and members of the committee, I greatly appreciate the opportunity to appear before you today. First of all, I wish to give my full support to the Navajo and San Juan-Chama reclamation projects which the committee is considering this morning. Both Gov. George D. Clyde, who is Utah's commissioner on the Upper Colorado River Commission, and the Utah Water and Power Board have advised me that they, too, give their support to those two meritorious projects. I was happy to vote for priority in planning of the Navajo and San Juan project in 1955.

Senator ANDERSON. Thank you Senator Bennett. I know you have other commitments and, for that reason kept your statement short.

Senator Chavez?

**STATEMENT OF HON. DENNIS CHAVEZ, A U.S. SENATOR FROM THE  
STATE OF NEW MEXICO**

Senator CHAVEZ. I would like to say that I believe Senate bill 107 is one of the most important pieces of legislation to come before the Senate in a long time. The bill introduced by us would authorize the construction of the Navajo Indian irrigation project and the initial stage of the San Juan-Chama project.

These two projects were assigned priorities insofar as planning work is concerned in Public Law 485, 84th Congress, 2d session, which authorized the initial units of the Colorado River storage project. The investigation on these two projects has been underway for many, many years, and we in New Mexico have worked long and hard in bringing the plans for these projects to their present status. We have helped to make many other water resources projects become realities. I have always favored such projects as I know their value to our national strength and economy.

The projects, I am sure, have been very carefully planned and present a program for the best utilization of New Mexico's portion of the Upper Colorado River water. This water comes from the San Juan River and its tributaries and is the last remaining undeveloped water resource available to the State of New Mexico. Every other stream and river in the State has been completely developed, and in many cases, uses have reached the point where there is insufficient water to supply the demands. We have several water salvage, and also a salinity alleviation, projects in the State in order to make available additional usable water for our State.

The Navajo Indian irrigation project will include a net area of 110,630 acres. As I mentioned before, the proposal to develop a large irrigable acreage in the area has been considered for many years, and such a plan was actually initiated in the early 1900's. Ever since that time, the people of northwestern New Mexico have been looking to the day when this project would become a reality. We have finally succeeded in having work started on the Navajo Dam which will be needed to serve this project.

The Navajo irrigation project is one of the measures of a program to help the Navajo people in solving their very difficult problem. The

Navajo population is now in excess of 80,000, and their agricultural resources on which they depend are very limited. The poverty among these people is a disgrace to our Nation. We have foreign aid programs to help underdeveloped countries, yet we have great difficulty in helping our own people. We took an initial step in helping the Navajo people when we enacted the Navajo-Hopi Rehabilitation Act of 1950. At that time, we recognized that the construction of this and other irrigation projects is essential in attempting to solve the Navajo Indian problems.

It has been estimated that the Navajo irrigation project would place about 1,100 Navajo families on the irrigated farms which would be provided. It is estimated that another 2,000 families will find employment in service and other activities. This project means that about 15,000 to 18,000 Navajo men, women, and children would be direct beneficiaries of the project.

To understand the problem of the Navajo people, one must go across the Navajo Reservation and observe the difficult situation under which these people live. The only opportunity to obtain any large amount of water is from the San Juan River. In the valley of the San Juan River, the Government has developed two very successful irrigation projects for the Navajos. They are the Fruitland and Hogback projects which are contributing substantially to the agricultural development of the valley. In spite of the handicaps of small holdings on these two projects, the Navajo families are at least deriving a subsistence from them. With the Navajo irrigation project it will be possible to have larger farms and allow the Navajo to have sufficient land on which to earn a living and raise his family.

The Navajo Tribal Council is now spending large sums of money in maintaining a school to train their people in irrigated land which the Navajo irrigation project would provide. In addition the Navajo Tribal Council spends large sums in developing industries which will provide for a local economy balanced between agriculture and industry. Their aim is to make the Navajo people self-supporting and develop a prosperous community contributing its share to the wealth of our Nation. All of this is of course dependent on intensive water development.

The estimated cost of the Navajo irrigation project is about \$135 million and the benefit-to-cost ratio of the project has been determined to be 1.6 to 1 on the basis of total benefits. I do not believe that this expenditure is at all out of line in developing a project which is so essential in the rehabilitation and improvement of a lot of this important segment of the population of our country. There is much more involved than cost—we cannot assign a dollar value to something which is needed to supply the human need for our own people.

The San Juan-Chama project is designed to divert an average annual amount of 110,000 acre-feet of water from the San Juan Basin into the Chama and the Rio Grande Basins. The water diverted into the Rio Grande Basin would be used to replace water used for the irrigation of additional lands on the Chama River and in the vicinity of Questa, Cerro, Taos, Espanola, Nambe Creek, and lands in the Middle Rio Grande Conservancy District. The water would also be used to provide municipal and industrial water supplies to Albuquerque and other communities.

The project plan for the San Juan-Chama calls for the utilization of 57,300 acre-feet of water for municipal and industrial uses which would be used largely by Albuquerque, Espanola, Bernalillo, Belen, and Socorro. The plan calls for the use of 30,100 acre-feet for supplemental irrigation on 39,330 acres of land along the tributaries of the Rio Grande and lands along the Rio Grande above Espanola. The plan also provides for supplemental supply of water for about 81,610 acres of land in the Middle Rio Grande Conservancy District in the amount of 22,600 acre-feet. The tributary units in the San Juan-Chama plan are as follows:

#### CERRO UNIT

This involves a storage reservoir on Red River, a diversion canal from Red River to lands located at Questa and in the vicinity of Cerro. Also, several diversion dams and canals to improve diversion of water from Cabresto, Rio Medio, Rio Primero and Latir Creeks to lands in the Questa-Cerro area. The total irrigable lands amount to 11,820 acres.

#### TAOS UNIT

This provides for the construction of a dam and reservoir on the Rio Hondo and a dam and reservoir on the Rio Grande del Rancho, the construction of nine new diversion dams and 30 miles of connecting canals. The plan provides works for serving an irrigable area of 20,550 acres between Ranchos de Taos and Arroyo Hondo. Some 4,050 acres of this land is owned by Taos Pueblo Indians.

#### LLANO UNIT

The Llano unit would be located along a narrow beach paralleling the main stem of the Rio Grande in the vicinity of Espanola. Lands in the upper end of the unit would be adjacent to the lands of Alcalde Village and the San Juan Pueblo. Lands in the lower end of the unit would comprise lands of the Santa Cruz Irrigation District. The project works would consist of a diversion dam on the Rio Grande near Velarde and about 19 miles of main canal plus a distribution and drainage system. The area to be served includes 1,900 acres of Indian lands and 2,620 acres of the Santa Cruz Irrigation District lands.

#### POJOAQUE UNIT

The plan for this unit provides for supplementing the water supply for about 2,440 acres of land along Pojoaque and Nambe Creeks through the construction of a dam immediately above Nambe Falls, two diversion dams and a canal system. Both Indian and non-Indian lands would be served by the project.

It is my understanding, also, that the Secretary of the Interior would be authorized to contract with communities such as Farmington, Gallup, and other municipalities for municipal and industrial water supplies.

The Rio Grande Valley is the oldest continually occupied area in the United States and the site of the first Spanish settlement, and is also one of the oldest agricultural areas in the United States. The pressing need for water in the basin vitally affects the welfare of more than half the population of the State and the water supply condition,

already critical, has been aggravated by continued drouth and increased uses. Shortage of water supplies has resulted in the inability to satisfy the irrigation and other demands and has resulted in many complex problems.

The economic plight of the small communities on the tributary streams in the northern part of the basin in New Mexico has long been recognized as a major problem. The residents of these areas depend largely on irrigated agriculture with water supplies being obtained by diversion of the unregulated flows of the streams. The only other opportunity for a livelihood has been to seek wagework outside the area. The most critical need in most areas is to expand the present resources by developing an adequate water supply and to permit optimum utilization of the lands now served by irrigation water and to extend facilities to serve additional lands. The need for storage reservoirs is not only to regulate streamflows for irrigation, but to protect diversion works from floods which frequently occur. I believe that such improvements are very essential to the economy of the Upper Rio Grande area of New Mexico and since New Mexico is entitled to this water, we should utilize it to improve the economic condition of those people who have been unable to help themselves.

We have a large number of Indian Pueblos located in the Rio Grande Basin and they have small irrigated tracts (and could have more) which should be provided with a supplemental water supply. I was pleased to observe that the Bureau of Reclamation, in their criteria for water supply studies, has given a high priority to the irrigated needs of the Rio Grande tributary areas because of the large number of rural people both Indian and non-Indian who depend on irrigated land for subsistence.

The plan provides for additional water for the Middle Rio Grande Conservancy District, which also contains a large number of Indian and non-Indian families, who certainly can use a supplemental water supply.

The city of Albuquerque, the largest city in the State, which has had phenomenal growth during the past few years, is in need for municipal and industrial water. The city is presently obtaining its water supplies from wells which are located in a large extent in the valley floor adjacent to the Rio Grande. It has been stated by authorities that the pumping of these wells has affected the flow of the river and it would therefore follow that as the city grows and additional water supplies are obtained from wells, there would be a continued effect on the flow of the river. The city of Albuquerque must do everything possible to maintain the stability of the agricultural development in the area since it is one of the principal trade centers in the State. If this city is to grow and supply the water needs of the city and the military installations at Sandia Base and Kirtland Field, additional water will be required.

It is noted that the total estimated construction cost of the initial stage of development would amount to about \$86 million and that of this amount over \$29 million is allocated to municipal and industrial water which will be fully reimbursable with interest. Other reimbursements would be made by the irrigators to the extent of their repayment ability and other costs would be taken care of out of New Mexico's share of the income from the power projects in the upper

Colorado River storage system. In other words this will be a fully reimbursable project with the exception of a small amount for basic recreational facilities at the reservoirs.

I can think of nothing more vital to the economy of my State and the strength of our Nation than the development of these water resources. I not only apply this philosophy to my own State but to every State and territory in our country. How else can our country progress and be strong if we fail to provide the basic commodity, which is water.

I was very happy to hear that the President in his natural resources message to Congress has emphasized the urgency of water resources development and has rejected a "no new starts" policy. I certainly applaud this attitude and hope that in such an atmosphere we may proceed vigorously in carrying on an accelerated program which is so vital to our national health and existence.

The CHAIRMAN. Thank you, Senator.

Mr. Dominy, are you to testify next? If so, you may go right ahead. We are very happy to have you.

#### STATEMENT OF FLOYD E. DOMINY, COMMISSIONER OF RECLAMATION

Mr. DOMINY. As a matter of fact, Mr. Chairman, I propose to read a very short statement, since, as you point out, this is pretty redundant to this committee. You have been over this project, and it is the same project that you have heard detailed hearings on before.

The CHAIRMAN. What we are going to try to do is confine the first part of the testimony to S. 107 and then come, in the second part of the testimony, to the Burns Creek project.

Mr. DOMINY. Yes, sir. I am going to testify only on S. 107, and Assistant Secretary Holum and Mr. Bennett and others will testify later on the Burns Creek bill, sir.

The CHAIRMAN. Thank you.

Mr. DOMINY. Mr. Chairman, extensive hearings have been held by this committee on the proposed San Juan-Chama and Navajo Indian irrigation projects over the past several years, which culminated in the Senate passing S. 72, 86th Congress, on May 19, 1959. That bill, if enacted by the Congress and approved by the President, would have authorized the Secretary of the Interior to construct the initial stage of the San Juan-Chama project as a participating project of the Colorado River storage project.

Although others will testify concerning the Navajo Indian irrigation project, we have worked closely with the Bureau of Indian Affairs throughout the investigations, with the result that the two projects are fully coordinated. Accordingly, I will discuss only the San Juan-Chama project.

Except for two minor editorial corrections and the need for clarification or elimination of section 8(a) that are pointed out in the Secretary's report, the bill which is being considered by the committee is satisfactory to us and we believe satisfactory to the States principally concerned with the project.

Briefly, the initial stage of the project provides for an average annual diversion of about 110,000 acre-feet of water from the San Juan

River for utilization in the Rio Grande Basin in New Mexico. The imported waters would be used to provide an irrigation water supply to 39,300 acres of land in the Cerro, Taos, Llano, and Pojoaque tributary irrigation units in the Rio Grande Basin in New Mexico, of which 22,800 acres are now irrigated and 16,500 acres are presently unirrigated lands interspersed among the irrigated portions; to provide supplemental water supply for irrigation of 81,600 acres of irrigable land in the existing Middle Rio Grande Conservancy District; and to provide for an additional municipal and industrial water supply for the city of Albuquerque. Recreation and the preservation and propagation of fish and wildlife would also be purposes of the initial stage.

The estimated construction cost of the project features of the initial stage, on the basis of January 1958 prices that also reflect current prices, is \$86 million, which includes \$400,000 for minimum basic recreation facilities. Project operation, maintenance, and replacement costs are estimated at \$324,000 annually excluding recreation facility operation and maintenance.

Of the project construction costs, reimbursable allocations of about \$53,400,000 are made tentatively to irrigation, \$29,200,000 to municipal and industrial water supply and \$3 million to future uses. The recreation costs would be nonreimbursable.

The initial stage development has engineering feasibility and is found to be economically justified in that the evaluated total benefits exceed the estimated annual costs in a ratio of 1.26 to 1 for a 100-year period of analysis. If direct benefits only are considered in a 50-year period of analysis, that ratio would be about 0.81 to 1.

And I would like to digress there for a moment to point out that this was the reason that last year the Bureau of the Budget sent up a fairly negative report on the San Juan portion of this combined project.

Now, in the President's water resource message, sent to the Congress recently, he pointed out the need for reconsideration of the guidelines in computing benefit-cost ratios on water resource projects. And we in Interior are actively working on suggested revisions to the guidelines in considering benefit costs of water resource projects, and we hope that the final consideration of the San Juan-Chama bill in the Bureau of the Budget will be based on guidelines differing from those existing now in the A-47 directive.

Irrigation water users would repay about \$8 million of the allocation to irrigation. Repayment contracts would be made with organizations of the type provided in section 4 of the act of April 11, 1956 (70 Stat. 107) for contracting on the participating projects authorized by section 1 of that act. The costs allocated to irrigation in excess of the irrigators' ability to repay would be paid from New Mexico's apportionment of the Upper Colorado River Basin fund revenues as provided in the act.

As outlined above, there has been no change in the physical features, the hydrology, or the costs of the project since we last testified before this committee in March 1959. There has been a small change in the financial and repayment aspects.

Last year Public Law 86-529 was enacted which, among other things, established a new formula for computing the interest rate

required for payout on the Colorado River storage project. This affected the municipal and industrial water payout requirements by the city of Albuquerque. We had used  $27\frac{1}{8}$  percent interest in computing payout requirements in our previous testimony, but under the formula as of today the rate would be 2.632 percent. Using the new rate, the cost of water to Albuquerque would be \$55,622,000 over a 50-year period, or about 7.3 cents per 1,000 gallons as against 7.7 cents under the old interest rate computation.

A financial and power rate analysis of the Colorado River storage project and participating projects was prepared in September 1960. That analysis shows that by fiscal year 2049, there would accrue to the credit of New Mexico about \$151 million in apportioned surplus power revenues, of which only a little more than \$2.7 million would be needed for presently authorized participating projects in that State.

The irrigation repayment assistance required by the proposed initial stage development of the San Juan-Chama participating project as presently evaluated amounts to about \$45.4 million. The analysis also shows that sufficient apportioned surplus revenues required for repayment of this assistance would accumulate by fiscal year 2022.

This concludes my statement, although I have two items that I suggest be included in the record:

(1) A more detailed description of the project.

(2) A copy of the Secretary's letter to the chairman of the House Interior and Insular Affairs Committee which confirms our findings that there is a water supply, with occasional tolerable shortages, for the initial stage of the San Juan-Chama project, the Navajo Indian irrigation project, and the Animas-La Plata project.

We will be glad to answer any questions the committee may have.

The CHAIRMAN. If there is no objection we will insert at the end of Mr. Dominy's testimony the two items he mentions.

May I ask this first, Mr. Dominy? Is the population growth at Albuquerque making this project more, or less, feasible?

Mr. DOMINY. It is making it more feasible, and certainly much more critically needed.

The CHAIRMAN. The population of Albuquerque was about 15,000 in 1920, and 22,000 in 1930, and 36,000 in 1940, and I think 96,000 in 1950, and about 200,000 in 1960. We are moving along pretty rapidly.

Mr. DOMINY. I have had occasion to be visiting Albuquerque ever since the year 1926, and I can certainly say that it is to my knowledge one of the fastest growing areas in the West.

The CHAIRMAN. And all of the growth, or a large part of it, is up in the mesa area that could best be served by the San Juan-Chama diversion bringing in water at a high level. These things have helped make the project a better project, in your opinion, have they?

Mr. DOMINY. You are entirely right, sir.

The CHAIRMAN. Are there questions by members of the committee? Very well.

Mr. DOMINY. We have completed our testimony on the San Juan portion, unless the committee has further questions. I think there are some Indian Bureau people here to cover that portion of the bill.

(The two exhibits presented by Mr. Dominy follow:)

## DETAILED STATEMENT OF FLOYD E. DOMINY, COMMISSIONER, BUREAU OF RECLAMATION ON S. 107

We appreciate the opportunity of presenting information on the plan of development for the proposed San Juan-Chama project in Colorado and New Mexico. The San Juan-Chama project is one of the potential participating projects which are given priority to completion of planning reports as provided by section 2 of the Colorado River Storage Project Act of April 11, 1956 (70 Stat. 105).

S. 107 being considered by your committee would, among other things, approve and authorize construction of the initial stage of this proposed water resource development as a participating project of the Colorado River storage project.

The Bureau of Reclamation's plan of development for the San Juan-Chama project was coordinated with the plan of the Bureau of Indian Affairs for development of the Navajo Indian irrigation project. Our coordinated planning reports, published as House Document No. 424, 86th Congress, were based on criteria and recommendations for development of the projects as submitted by the State of New Mexico. The Department's proposed report on the two projects was coordinated with the affected States and interested Federal agencies as required by law and interagency agreement.

## COMPREHENSIVE PLAN OF DEVELOPMENT

Our coordinated planning report covers a comprehensive plan of development for the potential San Juan-Chama project. Such a development could be accomplished under the comprehensive plan by diverting an average of 235,000 acre-feet of water annually from the upper tributaries of the San Juan River to the water-deficient Rio Grande and Canadian Basins. The water would be used to supplement irrigation of about 224,000 acres of arable land in the project area and as an additional supply for municipal and industrial purposes. Recreation and the preservation and propagation of fish and wildlife would also be purposes of the project.

On the basis of January 1958 prices, which are still applicable today, the estimated construction cost for project facilities studied in the ultimate plan of development, comprising principally regulating and storage reservoirs, collection, diversion, and conveyance systems and associated works, is about \$149 million. The evaluated total annual benefits exceed the estimated annual costs in a ratio of about 1.7 to 1.

## INITIAL STAGE OF DEVELOPMENT

The plan for initial stage development of the San Juan-Chama project as proposed for authorization in the pending legislation contemplates an average annual diversion of about 110,000 acre-feet from the San Juan River for utilization in the Rio Grande Basin in New Mexico. The imported waters would be used to provide an irrigation water supply to 39,300 acres of land in the Cerro, Taos, Llano, and Pojoaque tributary irrigation units in the Rio Grande Basin in New Mexico of which 22,800 acres are now irrigated and 16,500 acres are presently unirrigated lands interspersed among the irrigated portions; to provide supplemental water supply for irrigation of 81,600 acres of irrigable land in the existing Middle Rio Grande Conservancy District; and to provide for an additional municipal and industrial water supply for the city of Albuquerque. Recreation and the preservation and propagation of fish and wildlife would also be purposes of the initial stage.

The estimated construction cost of the project features of the initial stage, on the basis of January 1958 prices that also reflect current prices, is \$86 million, which includes \$400,000 for minimum basic recreation facilities. Project operation, maintenance, and replacement costs are estimated at \$324,000 annually excluding recreation facilities.

Of the project construction costs, reimbursable allocations of about \$53,400,000 are made tentatively to irrigation, \$29,200,000 to municipal and industrial water supply, and \$3 million to future uses. The recreation costs would be nonreimbursable.

The initial stage development has engineering feasibility and is found to be economically justified in that under currently applied procedure, the evaluated total benefits exceed the estimated annual costs in a ratio of 1.26 to 1 for a 100-year period of analysis. If direct benefits only are considered in a 50-year period of analysis, that ratio would be about 0.81 to 1.

Irrigation water users would repay about \$8 million of the allocation to irrigation. Repayment contracts would be made with organizations of the type provided in section 4 of the act of April 11, 1956 (70 Stat. 107) for contracting on the participating projects authorized by section 1 of that act. The costs allocated to irrigation in excess of the irrigators' ability to repay would be paid from New Mexico's apportionment of the Upper Colorado River Basin fund revenues as provided in the act.

Costs allocated to municipal and industrial water supply, including interest during construction, would be repaid over a 50-year period with interest on the unamortized balance. Using an interest rate of 2.632 percent, which is the current rate under the Colorado River Storage Project Act of April 11, 1956, as amended by the act of June 27, 1960, the total to be repaid by the municipal water users would be about \$55,622,000. The cost of raw municipal water would be about 7.3 cents per 1,000 gallons, or about \$24 per acre-foot.

Costs allocated to future uses, which involve the provision of excess capacity in the initial stage to permit later project expansion, would be also an obligation against New Mexico's share of the basin fund revenues, to be paid from that apportionment if not otherwise collected as a result of subsequent allocations to the water users. A financial and power rate analysis of the Colorado River storage project and participating project was prepared in September 1960. That analysis shows that by fiscal year 2049, there would accrue to the credit of New Mexico about \$151 million in apportioned surplus power revenues, of which only a little more than \$2.7 million would be needed for presently authorized participating projects in that State. The irrigation repayment assistance required by the proposed initial stage development of the San Juan-Chama participating project as presently evaluated amounts to about \$45.4 million. The analysis also shows that sufficient apportioned surplus revenues required for repayment of this assistance would accumulate by fiscal year 2022.

#### PLAN OF DEVELOPMENT

##### *Diversion facilities*

The diversion facilities would consist of three concrete diversion dams on Rio Blanco and Little Navajo and Navajo Rivers; feeder canals from the headworks of the diversion dams to the main canal; and the main conduit.

##### *Regulation facilities*

The regulation facilities would comprise the proposed Heron No. 4 Dam and Reservoir, located on Willow Creek near its confluence with Rio Chama, and the enlargement of the outlet works of the existing El Vado Dam. Heron No. 4 Reservoir, which is the "single offstream dam and reservoir on a tributary of the Chama River" referred to in section 2 of the act of April 11, 1956, would have a capacity of about 400,000 acre-feet at normal water surface elevation. The enlargement of the El Vado outlet would permit passing of Heron No. 4 releases through El Vado Reservoir unimpeded in order to insure compliance with the Rio Grande compact.

##### *Water use facilities*

Water allocated to the Middle Rio Grande Conservancy District and to municipal and industrial supply would be released directly to those users from Heron No. 4 Reservoir with no specific facilities provided for the delivery of these waters. Releases would also be made from Heron No. 4 to replace in the Rio Grande new water consumed on the tributary irrigation units. Four reservoirs would be required for regulation of tributary flows to furnish water directly to the lands of those units.

#### OPERATION PLAN

Available flows of the Rio Blanco, Little Navajo, and Navajo Rivers, all of which are tributaries of the San Juan River, would be diverted by the diversion works and feeder canals through the Continental Divide for release into the Willow Creek watershed of the Rio Grande Basin.

The imported waters would be captured and regulated in the Heron No. 4 Reservoir and then released directly into the Rio Chama to fulfill the allocations for several project purposes. Such reservoir regulation would also preclude interference with flows of the Rio Chama and its location would preclude storing any of the flows of the Chama which is the intent of the proviso of section 2 of the act of April 11, 1956. The enlarged outlet works at El Vado Dam would, in turn, permit passing imported water immediately through El

Vado Reservoir for the several project purposes. Imported water also would be released from Heron No. 4 Reservoir to replace the increased depletions of Rio Grande flows resulting from the tributary irrigation units. An important factor in the rehabilitation of the tributary units is the increased water supply made available through regulation or improved delivery.

A water measurement program is contemplated for project operation to account for both Rio Grande flows and imported San Juan River flows to assure complete replacement of depletions on the tributary units to the Rio Grande.

The plan of development does not contemplate use of the imported waters to meet any deficiencies that now or in the future accrue under the Rio Grande compact. Also, it is not intended that the flow of the Rio Grande at the New Mexico-Texas line be increased.

#### TRIBUTARY UNITS

The initial facilities would provide a full irrigation supply for about 6,700 acres on the Taos unit, 7,900 acres on the Cerro unit, and 1,900 acres on the Llano unit in addition to a supplemental supply for 3,900 acres on the Cerro unit, 13,800 acres on the Taos unit, 2,400 acres on the Pojoaque unit, and 2,600 acres of Santa Cruz Irrigation District lands on the Llano unit.

The distribution of the cost of construction of the joint facilities would be \$5,100,000 to the Cerro unit, \$2,700,000 to the Taos unit, \$4,400,000 to the Llano unit, and \$600,000 to the Pojoaque unit. The total cost of the Cerro unit amounts to \$11,500,000, which includes \$6,400,000 for unit features. The irrigation water users would repay \$1,300,000 over the 50-year repayment period. The Taos unit costs are estimated at \$16,700,000 including \$14 million of unit costs. The water users would repay \$3,200,000 over 50 years. The total cost of the Llano unit will be about \$6 million including \$1,600,000 for the cost of the unit features. About \$700,000 would be returned by the water users over the 50-year period. Total cost of the Pojoaque unit is estimated to be about \$2,500,000 including \$1,900,000 for unit features. The water users would repay \$800,000 over 50 years. In each case, the amounts above the repayment ability of the water users would be repaid from the Upper Colorado River Basin fund. The estimated benefit-cost ratio for the Pojoaque unit is 1.1 to 1; for the other units it is estimated at 1.2 to 1.

#### MIDDLE RIO GRANDE CONSERVANCY DISTRICT UNIT

The initial stage plan provides for furnishing supplemental irrigation water to the irrigable lands of the Middle Rio Grande Conservancy District now being rehabilitated by the Bureau of Reclamation. These lands comprise about 81,600 acres which were found by classification to be arable and to have repayment capacity. No new irrigation works are provided in this plan. The water would be released from Heron No. 4 Reservoir as needed and diverted to the district lands through the existing irrigation system.

The estimated cost of this unit would be about \$17 million which comprises the allocated share of the construction costs of the joint project works. The water users in the conservancy district would repay a total of about \$2 million of these allocated costs. The remainder would be repaid from the basin fund. We estimate the benefit-cost ratio for this unit to be 1.2 to 1.

#### MUNICIPAL AND INDUSTRIAL WATER SUPPLY FOR ALBUQUERQUE

The plan provides for supplying 50,000 acre-feet of water annually for municipal and industrial uses by the city of Albuquerque. Releases would be made from Heron No. 4 Reservoir as required to meet the city's demand and would be delivered in the river channel by recharge of the ground-water aquifer or at diversions to be provided by the city. The State engineer has assumed jurisdiction over ground-water withdrawals in the Rio Grande Basin and has established regulations that recognize the interrelationship of surface and ground waters in the basin.

The estimated construction cost of municipal and industrial water supply for the city of Albuquerque is \$29,200,000. The benefit-cost ratio of this unit is estimated to be about 1.4 to 1. The initial obligation of about \$31 million, which includes interest during construction, would be paid, with interest, by the water users over a 50-year period.

U.S. DEPARTMENT OF THE INTERIOR,  
OFFICE OF THE SECRETARY,  
Washington, D.C., November 16, 1960.

HON. WAYNE N. ASPINALL,  
*Chairman, Committee on Interior and Insular Affairs,  
House of Representatives,  
Washington, D.C.*

DEAR MR. ASPINALL: Pursuant to your request of August 17, 1960, we are glad to furnish the following information and findings as to the availability of water supply for the San Juan-Chama, Navajo Indian, and Animas-La Plata projects. Engineers of the Bureau of Reclamation have cooperated with engineers from Colorado and New Mexico in studying the availability of water for these proposed projects in Colorado and New Mexico. These studies support the findings described in subsequent paragraphs.

The San Juan-Chama project and the Navajo Indian irrigation project would divert water at or above the Navajo Reservoir on the San Juan River near Blanco, N. Mex. The diversion requirements for these two projects are shown in published reports to total 618,000 acre-feet annually. The available longtime average annual supply at the Navajo Dam site, after allowing for uses by authorized projects in Colorado, bypasses to meet existing uses, and the Hammond project in New Mexico, is in excess of 1 million acre-feet.

A preliminary report prepared in 1954 for the proposed Animas-La Plata project shows an annual diversion demand from the Animas River of about 250,000 acre-feet. The longtime average annual available flow, after allowing for bypass of water to meet existing downstream uses from the Animas River in Colorado and New Mexico, at the Tefts diversion site located about 20 miles upstream from Durango, Colo., is about 400,000 acre-feet.

The longtime (46-year period 1912-58) annual historic flow of the San Juan River at Farmington, N. Mex., below the confluence with the Animas River is 1,900,000 acre-feet.

Estimates made by Bureau engineers and hydrologists, and which are being used by the Bureau in studies basic to the overall Colorado River storage project, indicate that within the next 100 years the total depletions of streamflow applicable to the upper basin will reach about 6,200,000 acre-feet. Of this total, about 3,900,000 is related to already existing and federally authorized uses as well as including allowances for the Blue River settlement under section 11 of Public Law 485, 84th Congress, and the Utah Construction Co. right. When there are added to this amount (3,900,000), the depletions to be caused by the Navajo Indian irrigation project, the initial stage of the San Juan-Chama project, and the Animas-La Plata project, the total becomes about 4,375,000. This total is approximately 70 percent of that estimated to occur by year 2062.

From our studies of presently available long-time streamflow records, we believe that the Colorado River storage project units (Glen Canyon, Navajo, Flaming Gorge, and Curecanti) have ample conservation storage capacity to permit the depletions contemplated throughout this 100-year period. We do not feel we are justified in attempting to forecast beyond a 100-year period.

Taking into account the streamflow records for the San Juan River and the estimated rate of increase of the upper basin depletions, we are convinced there is a water supply, with occasional tolerable shortages, for the San Juan-Chama (initial stage), Navajo Indian, and Animas-La Plata projects throughout any reasonable payout period and at least for 100 years. Consequently, it cannot be said that development of these projects is in conflict over water supply or that the economic feasibility of the Animas-La Plata project is impaired because of such conflict.

Sincerely yours,

ELMER F. BENNETT,  
*Acting Secretary of the Interior.*

The CHAIRMAN. Mr. Crow?

I am very happy to welcome you here. I think this is the first time you have testified officially before us.

Mr. Crow was supervisor of an Indian reservation for many years, and my first contact with him, strangely, was on the question of water and the rights of the people to take water from a creek which the Indians were using.

Mr. Keesee is here, also. Mr. Keesee has been a longtime student of the Navajo Indian irrigation project.

Gerry, sometimes we do not get as much praise for our efforts as we deserve, but I know the Indians appreciate the steadfastness with which you have pursued this project, the number of times you have resurveyed bits of ground and canal areas and so forth. I am hopeful that this is the last time you are going to have to testify before the Senate on it, because I think this time the House is very likely to pass the project. And before you finish with this, in the Senate, I want to compliment you for your fidelity to your task, for your hard work, and for your many appearances before the committee.

We are very grateful to you.

Mr. Crow, we will be glad to hear from you.

#### STATEMENT OF ACTING COMMISSIONER JOHN O. CROW, BUREAU OF INDIAN AFFAIRS

Mr. CROW. Mr. Chairman, thank you very much for this opportunity.

Before reading this brief statement, I would like to say that with regard to section 8 of the bill, it has been brought to your attention in the report that this needs to be clarified. Our position is that we want nothing in the report which might impair the present rights of the Indians to water.

I am happy to have this opportunity to appear before this committee to present the views of the Bureau of Indian Affairs in support of the Navajo Indian irrigation project located in northwest New Mexico, which is now under consideration.

In order to save the time of the committee, my comments will be limited. Testimony in support of this project has heretofore been made in detail on several occasions and is a part of the record. Supporting information was given during the hearing before this committee on July 9 and 10, 1958, and March 16, 1959. I request that these be made a part of the present record by reference.

The building of the Navajo Indian irrigation project is a part of a broad program to develop the water and land resources of the Navajo Indian people. There is a lack of balance between the rapidly increasing Navajo population and the resources upon which these people depend for support. The construction of this project would be of great benefit in any sound approach to a basic solution of the total Navajo problem. The irrigation development would bring many primary and secondary benefits to the Navajo people.

In addition to the benefits to the Navajos who would be settled on the irrigated land, benefits would accrue to many others who must depend on an overused range to eke a bare living from small bands of sheep and herds of cattle they own. This development would permit the stabilization of the livestock operations reservation-wide, resulting in a larger income from the land.

I would like to point out the effect of this irrigation development by comparing present earning capacity of the land with that which can be expected in the future. The lands proposed for development, now used by individual Navajo Indians under assignment from the tribe, support 5,116 sheep units year-long. The same lands under

irrigation would support about 436,000 sheep units year-long, which is more sheep units than can be supported on the entire Navajo Reservation at this time.

In anticipation of early authorization and construction of the Navajo Indian irrigation project, the Navajo Tribal Council established a training farm near Shiprock. This training farm is administered by tribal officials and financed in its entirety with tribal funds.

The fundamental purpose of this training activity is to train interested Navajos in irrigation farming and provide settlers for lands to be developed in this project. The program has been in progress for about 5 years and the results obtained have been extremely gratifying. There is no doubt that if the Navajo is given the opportunity and the training, he can be a successful irrigation farmer.

The decision for the authorization of this project is that of the Congress, and I hope that it will receive your most thoughtful consideration. The Bureau of Indian Affairs strongly supports the construction of the project.

Thank you very much.

The CHAIRMAN. Are there questions?

If not, Mr. Keesee, do you have a statement?

**STATEMENT OF GERALD B. KEESEE, CHIEF, BRANCH OF LAND OPERATIONS, BUREAU OF INDIAN AFFAIRS**

Mr. KEESEE. I do not have any prepared statement, Senator Anderson. I would like to stand on the statement that we submitted previously to the committee.

The CHAIRMAN. The project as now visualized is about the same as last testified upon?

Mr. KEESEE. There is no change in it.

The CHAIRMAN. You stand on your previous testimony?

Mr. KEESEE. I will stand on our previous testimony.

The CHAIRMAN. Are there any questions of Mr. Keesee?

S. E. Reynolds, State engineer, and Claud S. Mann, special assistant to the attorney general, State of New Mexico, are the next witnesses.

**STATEMENTS OF S. E. REYNOLDS, STATE ENGINEER, AND CLAUD S. MANN, SPECIAL ASSISTANT ATTORNEY GENERAL, STATE OF NEW MEXICO**

Mr. REYNOLDS. Thank you, Mr. Chairman and distinguished committee members.

I am State engineer and secretary of the Interstate Stream Commission of the State of New Mexico, and in these capacities I have responsibility for the administration and development of the water resources of the State of New Mexico.

Mr. Claud Mann who joins me in this statement is special assistant attorney general of the State of New Mexico, and legal adviser to the New Mexico Interstate Stream Commission. We appear in support of S. 107, which would authorize the proposed Navajo Indian irrigation project and the San Juan-Chama diversion project in New Mexico.

This distinguished committee and the U.S. Senate have twice approved legislation which would authorize these projects. We are confident that this committee is thoroughly familiar with the nature, merit, and the great need for the Navajo and San Juan-Chama projects, and we will not burden the record with comments directed toward these points. We would, however, respectfully invite your attention to the record of the hearings before this committee on S. 3648, 85th Congress, and S. 72, 86th Congress, and the record of the hearings before the House Irrigation and Reclamation Subcommittee on H.R. 2352, H.R. 2494, and S. 72, all of the 86th Congress.

We are pleased to note in passing that since the hearings before this committee on S. 72 the Secretary of the Interior, in a report to the chairman of the House Committee on Interior and Insular Affairs, dated May 19, 1960, found both the Navajo project and the San Juan-Chama project engineeringly feasible and economically justified and recommended the enactment of legislation authorizing the projects. The Bureau of the Budget did not object to the submission of that report.

The State of Colorado was concerned that construction of the projects that would be authorized by S. 107 would not leave sufficient water in New Mexico's allocation to permit construction of the Animas-La Plata project, which is proposed for construction in Colorado and New Mexico. In the hearings before this committee on S. 72 in March of 1959, I expressed the opinion that there was ample water available to New Mexico from the San Juan River and tributaries under the terms of the Colorado River compact and the Upper Colorado River Basin compact for all present and authorized uses in New Mexico, for the two projects that would be authorized by S. 107, and for the New Mexico portion of the proposed Animas-La Plata project, with a substantial amount remaining available to meet the needs of future municipal and industrial development.

The views which I expressed in my statement to this committee on S. 72 have been confirmed by a letter from the Secretary of the Interior to Congressman Aspinall dated November 16, 1960, which states:

It cannot be said that development of these projects (Navajo irrigation project and San Juan-Chama project) is in conflict over water supply or that the economic feasibility of the Animas-La Plata project is impaired because of such conflict.

And we have submitted a copy of that letter to the statement which we have previously filed with the committee.

We would also particularly invite your attention to the testimony of Mr. Don Burnett, Chief of Project Planning, Bureau of Reclamation, before the House Irrigation and Reclamation Subcommittee at the hearings on S. 72. Mr. Burnett's testimony shows that the power revenue credits anticipated to be available for New Mexico projects under the terms of Public Law 485, 84th Congress, are sufficient to permit construction to be undertaken on the San Juan-Chama project as soon as it may be authorized by the Congress.

An extrapolation of the estimates given by Mr. Burnett indicates that the remaining power-revenue credits available to New Mexico are sufficient to permit construction of New Mexico's portion of the Animas-La Plata project also as soon as that project may be authorized.

The language of S. 107 differs materially from that of S. 72 as it was approved by the Senate in 1959. These changes are designed to meet objections raised by the State of Colorado after the Senate action on S. 72. The provisions of S. 72 were fully satisfactory to the State of New Mexico and the Navajo Tribe. However, the State of New Mexico and representatives of the Navajos were pleased to negotiate with Colorado representatives to develop proposed language for the authorizing legislation which would give Colorado assurance that her interests are fully protected.

We should like to devote the remaining time available to us to a discussion of these changes. To facilitate that discussion, there is attached to the statement which we have filed with the committee a draft bill upon which are indicated, in the usual manner, the changes made in S. 72, 86th Congress, to arrive at the language of S. 107. You may find it helpful in following this discussion to refer to that draft.

The language inserted is printed in *italic*, and the language deleted is enclosed in black brackets.

The CHAIRMAN. I think it would be helpful to readers of this hearing record if your draft bill were placed in the record at this point. (The exhibit is as follows:)

## DRAFT OF BILL

(Indicating changes in language of S. 72, 86th Congress to develop language of S. 107, 87th Congress. Matter proposed to be omitted is enclosed in black brackets, new matter is printed in *italic*)

A BILL To authorize the Secretary of the Interior to construct, operate, and maintain the Navajo Indian irrigation project, and the initial stage of the San Juan-Chama project as participating projects of the Colorado River storage project, and for other purposes

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That, for the purpose of furnishing water for irrigation [or] of irrigable and arable lands, municipal, domestic, and industrial uses (and for other beneficial purposes), providing recreation and fish and wildlife benefits, controlling silt, the Congress hereby approves as participating projects of the Colorado River storage project the Navajo Indian irrigation project, New Mexico, and the *initial stage of the San Juan-Chama project, Colorado-New Mexico as conditioned, modified, and limited herein*. Principal engineering works of the Navajo Indian irrigation project shall be a main gravity canal, tunnels, siphons, pumps, and powerplants for project purposes, laterals, drains, distribution systems, and related works. The *initial stage of the San Juan-Chama project facilities* shall be comprised principally of regulating and storage reservoirs, collection, diversion, and conveyance systems, and associated works.

The Navajo Indian irrigation project and *the initial stage of the San Juan-Chama project herein approved* are substantially those described in the proposed coordinated report of the Acting Commissioner of reclamation and the Commissioner of Indian Affairs, approved and adopted by the Secretary of Interior on October 16, 1957, *as conditioned, modified, and limited herein*.

Sec. 2. Pursuant to the provisions of the Act of April 11, 1956 (70 Stat. 105), the Secretary of the Interior is authorized to construct, operate, and maintain the Navajo Indian irrigation project for the principal purpose of furnishing irrigation water to approximately one hundred and ten thousand six hundred and thirty acres of land, said project to have an average annual diversion of five hundred and eight thousand acre-feet of water, the repayment of the costs of construction thereof to be in accordance with the provisions of said Act of April 11, 1956 (70 Stat. 105), including but not limited to, section 4(d) thereof.

Sec. 3. (a) In order to provide for the most economical development of the Navajo irrigation project, the Secretary of the Interior is hereby authorized and directed to declare by publication in the Federal Register that the United States of America holds in trust for the Navajo Tribe of Indians any legal

subdivisions or unsurveyed tracts of federally owned land outside the present boundary of the Navajo Indian Reservation in New Mexico in townships 28 and 29 north, ranges 10 and 11 west, and townships 27 and 28 north, ranges 12 and 13 west, New Mexico principal meridian, susceptible to irrigation as part of the Navajo Indian irrigation project or necessary for location of any of the works or canals of such project: *Provided, however,* That no such legal subdivision or unsurveyed tract shall be so declared to be held in trust by the United States for the Navajo Tribe until the Navajo Tribe shall have paid the United States the full appraised value thereof. *And provided further,* That in making appraisals of such lands the Secretary of the Interior shall consider their values as of the date of approval of this Act, excluding therefrom the value of minerals subject to leasing under the Act of February 25, 1920, as amended (30 U.S.C. 181-286), and such leasable minerals shall not be held in trust for the Navajo Tribe and shall continue to be subject to leasing under the Act of February 25, 1920, as amended, after the lands containing them have been declared to be held in trust by the United States for the Navajo Tribe.

(b) The Navajo Tribe is hereby authorized to convey to the United States, and the Secretary of the Interior is hereby directed to accept on behalf of the United States, title to any land or interest in land within the above-described townships, susceptible to irrigation as part of the Navajo Indian irrigation project or necessary for location of any of the works or canals of such project, acquired in fee simple by the Navajo Tribe, and after such conveyance said land or interest in land shall be held in trust by the United States for the Navajo Tribe as a part of the Navajo Indian irrigation project.

(c) The Secretary of the Interior is hereby authorized and directed to acquire by purchase, exchange, or condemnation any other land or interest in land within the townships above described susceptible to irrigation as part of the Navajo Indian irrigation project or necessary for location of any of the works or canals of such project. After such acquisition, said lands or interest in lands shall be held by the United States in trust for the Navajo Tribe of Indians and the price of such lands or interest in lands or of the land given in exchange therefor by the United States shall be charged to funds of the Navajo Tribe of Indians on deposit in the Treasury of the United States.

SEC. 4. In developing the Navajo Indian irrigation project, the Secretary is authorized to provide capacity for municipal and industrial water supplies or miscellaneous purposes over and above the diversion requirements for irrigation stated in section 2 of this Act. But such additional capacity shall not be constructed and no appropriation of funds for such construction shall be made unless, prior thereto, contracts have been executed which, in the judgment of the Secretary, provide satisfactory assurance of repayment of all costs properly allocated to the purposes aforesaid with interest as provided by law.

SEC. 5. Payment of operation and maintenance charges of the irrigation features of the Navajo Indian irrigation project shall be in accordance with the provisions of the Act of August 1, 1914 (38 Stat. 582, 583), as amended by the Act of August 7, 1946 (60 Stat. 867): *Provided,* That the Secretary of the Interior in his discretion may transfer to the Navajo Tribe of Indians the care, operation, and maintenance of all or any part of the Navajo Indian irrigation project works, subject to such rules and regulations as he may prescribe, and, in such event, the Secretary may transfer to the Navajo Tribe title to movable property necessary to the operation and maintenance of project works.

SEC. 6. [(a)] Pursuant to the provisions of the Act of April 11, 1956 (70 Stat. 105), the Secretary of the Interior is authorized to construct, operate, and maintain [an] the initial stage of the San Juan-Chama project, Colorado-New Mexico, for the principal purposes of furnishing water supplies to approximately thirty-nine thousand three hundred acres of land in Cerro, Taos, Llano, and Pojoaque tributary irrigation units in the Rio Grande Basin, about eighty-one thousand six hundred acres of land in the existing Middle Rio Grande Conservancy District, and municipal, domestic, and industrial uses, and providing recreation and fish and wildlife benefits, [said initial stage to have an average annual diversion of one hundred and ten thousand acre feet of water] said construction and operation of the diversion facilities of the initial stage authorized herein shall include only natural flow of the Navajo, Little Navajo, and Blanco Rivers in Colorado as set forth in the supplemental project report dated May 1957. Principal engineering works of the initial stage development involving three major elements, shall include diversion dams and conduits, storage and regulation facilities at the Heron Numbered 4 Reservoir site and enlargement of outlet works of the existing El Vado Dam, and water use facilities consisting

of reservoirs, dams, canals, lateral and drainage systems, and associated works and appurtenances. The construction of recreation facilities at the Nambe Reservoir shall be contingent upon the Secretary's making appropriate arrangements with the governing body of the Nambe Pueblo for the operation and maintenance of such facilities, and the construction of recreation facilities at the Heron Numbered 4, Valdez, and Indian Camp Reservoirs and shall be contingent upon the Secretary's making appropriate arrangements with a State or local agency or organization for the operation and maintenance of those facilities: *Provided, That—*

(a) *The Secretary of the Interior shall so operate the initial stage of the project authorized herein that diversions to the Rio Grande Valley shall not exceed one million three hundred and fifty thousand acre-feet of water in any period of ten consecutive years, reckoned in continuing progressive series starting with the first day of October after the project shall have commenced operations.*

(b) *The Secretary of the Interior shall operate the project so that there shall be no injury, impairment, or depletion of existing or future beneficial uses of water within the State of Colorado, the use of which is within the apportionment made to the State of Colorado by article III of the Upper Colorado River Basin Compact, as provided by article IX of the Upper Colorado River Basin Compact and article IX of the Rio Grande Compact.*

[(i)] (c) all works of the project [ ], both in its initial stage and in its final development,] shall be constructed so as to permit compliance physically with all provisions of the Rio Grande Compact, and all such works shall be operated at all times in conformity with the Rio Grande Compact;

[(ii)] (d) the amount of water diverted in the Rio Grande Basin for uses served by the San Juan-Chama project shall be limited in any calendar year to the amount of imported water available to such uses from importation to and storage in the Rio Grande Basin in that year;

[(iii)] (e) details of project operation essential to the accounting of diverted San Juan and Rio Grande flows shall be cooperatively developed through the joint efforts of the Rio Grande Compact Commission, the appropriate agencies of the United States and of the States of Colorado, New Mexico, and Texas, and the various project entities. In this connection the States of Texas and New Mexico shall agree, within a reasonable time, on a system of gaging devices and measurements to secure data necessary to determine the present effects of tributary irrigation, as well as present river channel losses: *Provided, That* if the State of Texas shall require, as a precedent to such agreement, gaging devices and measurements in addition to or different from those considered by the Department of the Interior and the State of New Mexico to be necessary to this determination, the State of Texas shall pay one-half of all costs of constructing and operating such additional or different devices and making such additional or different measurements which are not borne by the United States. The results of the action required by this subsection shall be incorporated in a written report transmitted to the States of Colorado, Texas, and New Mexico for comment in the manner provided in the Flood Control Act of 1944, before any appropriation shall be made for project construction. [.]

(f) *The Secretary of the Interior shall operate the project so that for the preservation of fish and aquatic life the flow of the Navajo River and the flow of the Blanco River shall not be depleted at the project diversion points below the values set forth at page D2-7 of appendix D of the United States Bureau of Reclamation report entitled "San Juan-Chama project, Colorado-New Mexico", dated November 1955.*

[(b)] (g) The Secretary of the Interior is hereby authorized to construct the tunnel and conduit works of the initial stage of the San Juan-Chama project with sufficient capacity for future diversion of an average of two hundred and thirty-five thousand acre-feet per annum, and to recognize the cost of providing such additional capacity as a deferred obligation to be paid at such time as the additional capacity may be required. : *Provided, however, that nothing contained in this Act shall be construed as committing the Congress of the United States to future authorization of any additional stage of the San Juan-Chama project.*

SEC. 7. (a) No person shall have or be entitled to have the use for any purpose, including uses under the Navajo Indian irrigation project and [(the initial stage of)] the San Juan-Chama project authorized by sections 2 and 6 [(a)] of this Act, of water stored in Navajo Reservoir or of any other waters of the San Juan River and its tributaries originating above Navajo Reservoir to the use

of which the United States is entitled *under these projects* except under contract satisfactory to the Secretary of the Interior and conforming to the provisions of this Act. Such contracts, which, in the case of water for Indian uses, shall be executed with the Navajo Tribe, shall make provisions, in any year in which the Secretary anticipates a shortage taking into account both prospective runoff originating above Navajo Reservoir and the available water in storage in Navajo Reservoir, for a sharing of the available water in the following manner: The prospective runoff shall be apportioned between the contractors diverting above and those diverting at or below Navajo Reservoir in the proportion that the total normal diversion requirement of each group bears to the total of all normal diversion requirements. In the case of contractors diverting above Navajo Reservoir, each such contract shall provide for a sharing of the runoff apportioned to said group in the same proportion as the normal diversion requirement under said contract bears to the total normal diversion requirements of all such contracts that have been made hereunder: *Provided*, That for any year in which the foregoing sharing procedure either would apportion to any contractor diverting above Navajo Reservoir an amount in excess of the runoff anticipated to be physically available at the point of his diversion, or would result in no water being available to one or more such contractors, the runoff apportioned to said group shall be reapportioned as near as may be among the contractors diverting above Navajo Reservoir in the proportion that the normal diversion requirements of each bears to the total normal diversion requirements of the group. In the case of contractors diverting from or below Navajo Reservoir, each such contract shall provide for a sharing of the remaining runoff together with the available storage in the same proportion as the normal diversion requirement under said contract bears to the total normal diversion requirements under all such contracts that have been made hereunder.

The Secretary shall not enter into contracts beyond a total amount of water that, in his judgment, in the event of shortage will result in a reasonable amount being available for the diversion requirements for the Navajo Indian irrigation project and the initial stage of the San Juan-Chama project as specified in sections 2 and 6 [(a)] of this Act.

(b) In the event contracts are entered into for delivery from storage in Navajo Reservoir of water not covered by subsection (a) of this section, such contracts shall be subject to the same provision for sharing of available water supply in the event of shortage as in the case of contracts required to be made pursuant to subparagraph (a) of this section.

(c) This section shall not be applicable to the water requirements of the existing Fruitland, Hogback, Cudai, and Cambridge Indian irrigation projects, nor to the water required in connection with the extension of the irrigated acreages of the Fruitland and Hogback Indian irrigation projects in a total amount of approximately eleven thousand acres.

SEC. (a) *None of the project works, or structures authorized by this Act shall be operated by the Secretary of the Interior so as to create, implement or satisfy any preferential right in the United States or any Indian tribe to the waters impounded, diverted, or used by means of such project works or structures, other than contained in those rights to the uses of water granted to the States of New Mexico or Arizona pursuant to the provisions of the Upper Colorado River Basin Compact.*

(b) *The Secretary of the Interior shall operate the projects authorized by this Act so that no waters shall be diverted or used by means of the project works, which, together with all other waters used in or diverted from the San Juan River Basin in New Mexico, will exceed the water available to the States of New Mexico and Arizona under the allocation contained in article III of the Upper Colorado River Basin Compact for any water year.*

SEC. [8]9. Section 12 of the Act of April 11, 1956 (70 Stat. 105) shall not apply to the works authorized by this Act. There are hereby authorized to be appropriated out of any moneys in the Treasury not otherwise appropriated, such funds as may be required to carry out the purposes of this Act, but not to exceed \$221,000,000 (January 1958 prices) plus such amounts, if any, as may be required by reason of changes in construction costs as indicated by engineering cost indexes applicable to the types of construction involved therein and, in addition thereto, such sums as may be required to operate and maintain the projects.

SEC. [9]10. The Act of April 11, 1956 (70 Stat. 105) is hereby amended as follows: (1) In section 1, subsection (2), after "Central Utah (initial phase)"

delete the colon and insert in lieu thereof a comma; (ii) in section 5, subsection (e) in the phrase "herein or hereinafter authorized" delete the word "hereinafter" and insert in lieu thereof the word "hereafter"; (iii) in section 7 in the phrase "and any contract lawfully entered unto under said compacts and Acts" delete the word "unto" and insert in lieu thereof the word "into".

Mr. REYNOLDS. Thank you.

The provisions of S. 72 would have approved, as a participating project of the Colorado River storage project, the ultimate San Juan-Chama project, capable of diverting an average of 235,000 acre-feet per year from the San Juan Basin to the Rio Grande Basin, but would have authorized only the construction of an initial stage of that project capable of diverting an average of 110,000 acre-feet per year.

The words which have been inserted in section 1 of the draft, the deletion of language in section 6 and the provision inserted at the end of section 6(g) of the draft give Colorado assurance that the legislation cannot be construed to authorize a diversion of more than an average of 110,000 acre-feet per year, or in any way commit the Congress to the authorization of subsequent stages of the project to divert a greater amount. New Mexico believes that these changes do not materially alter the effect of S. 72.

The CHAIRMAN. May I ask, Mr. Reynolds, if you have discussed this with the Colorado group?

Mr. REYNOLDS. Yes, sir.

The CHAIRMAN. Do I understand the State of Colorado is satisfied with this language?

Mr. REYNOLDS. Yes, sir.

The language inserted in section 6 of the draft would limit the project to diversions of only the natural flow of the Navajo, Little Navajo and Blanco Rivers in Colorado. That is, under this authorization, storage reservoirs could not be constructed on these tributaries on the west side of the Continental Divide to provide works capable of diverting more water than the works described in the Bureau of Reclamation's supplemental project report dated May 1957.

The project plan developed by the Bureau of Reclamation for the initial stage of the San Juan-Chama project provides 400,000 acre-feet of regulatory storage in the Rio Grande Basin on the east side of the divide, and does not contemplate storage reservoirs on the tributaries in Colorado. Accordingly, this limiting provision will not affect project feasibility.

The proviso of section 6(a) of the draft would limit diversions to the Rio Grande Valley to a total of 1,350,000 acre-feet of water in any period of 10 consecutive years. To offset years of low runoff when there is less than 110,000 acre-feet available for diversion by the project it is necessary, in years of high runoff to divert more than 110,000 acre-feet to make available a long-term average of 110,000 acre-feet.

The project studies show that 1,350,000 acre-feet is the maximum that would be taken in any period of 10 consecutive years in the period of hydrologic record used in developing the project plan. Accordingly, it can be concluded that this limitation will not affect project feasibility.

The proviso of section 6(b) of the draft is, in the opinion of New Mexico's legal advisers, a substantial reiteration of the provisions of

article IX of the Upper Colorado River Basin, compact, and article IX of the Rio Grande compact. Therefore, the reiteration of these principles in this legislation is probably surplusage, but could be found objectionable as to form only and not as to substance.

The proviso of section 6(f) of the draft was added to give Colorado assurance that fishery on the tributaries to be tapped in Colorado would be preserved. The bypasses provided for by section 6(f) are those used in the hydrologic analysis for the development of the project plan, and, therefore, this proviso will not affect project feasibility.

Section 7(a) of the draft sets forth a formula under which the San Juan-Chama project, the Navajo Indian irrigation project, and other users from Navajo Reservoir in New Mexico would share shortages in time of low water supply. The words "under these projects" are inserted in section 7(a) of the draft to make it clear that Colorado water users under Federal projects that may later be constructed on tributaries of the San Juan in Colorado would not be subject to the shortage-sharing provisions of section 7(a).

Section 8 of the draft was inserted to give Colorado assurance that all uses from these projects in New Mexico or Arizona will be chargeable to the allocations given New Mexico and Arizona by the Upper Colorado River Basin compact, and that the right to use amounts in excess of those allocations will not be claimed under the Winters doctrine, the "reservation theory" or some other theory of water law.

Article VII of the upper basin compact clearly provides that any uses by the Federal Government or by its wards are chargeable to the allocation of the States in which such use is made. Section 8 respects the right of Arizona to divert water in New Mexico for use in Arizona under article IX(a) of upper basin compact. It seems unlikely that there will be any occasion to exercise this right to any great extent, but the reference to Arizona was made in section 8 since there is a possibility that certain relatively small industrial requirements on the Navajo Reservation in the Red Lake-Window Rock area in Arizona might be served through Navajo Canal.

The changes which we have discussed were agreed upon by the States of Colorado and New Mexico after intensive negotiations extending from early February through May 19, 1960. Representatives of the Navajo Tribe participated in these negotiations and the Indians have made no objection to these changes. The provisions of S. 72 were agreeable to the State of Texas and none of these changes would affect the interests of that State in any way.

In closing, we would like to emphasize that these projects which have been found engineeringly feasible and economically justified by the Department of the Interior are essential to meet the future water needs of the State of New Mexico, and would produce tremendous benefits for two areas of the State which have suffered chronic economic distress for many years—namely, the Navajo Reservation and the Upper Rio Grande Valley.

On behalf of the State of New Mexico we ask your early and favorable consideration of S. 107 and express the State's great appreciation for the opportunity to appear before you today.

The CHAIRMAN. Mr. Mann, have you participated in these discussions, also?

Mr. MANN. Yes, I have, Senator.

The CHAIRMAN. You feel that these amendments, while they are primarily for the protection and assistance of the people of Colorado, still make the project workable and feasible and satisfactory to the State of New Mexico?

Mr. MANN. That is correct.

The CHAIRMAN. Are there questions?

Senator CARROLL. I might ask Mr. Reynolds a few questions.

What is the situation with reference to Colorado? Have you cleared everything with Colorado on this matter?

Mr. REYNOLDS. Yes, sir, I believe we have.

I might refer again to Mr. Sparks' testimony before the House in May of 1960, at which time he said that the studies of the State of Colorado indicated that these projects would in no way affect their interests adversely.

At that time he conditioned that remark upon a later finding by the Department of Interior that there was no conflict over water supply, and that finding has been made.

Senator CARROLL. Have you talked to Mr. Sparks recently?

Mr. REYNOLDS. Yes, sir.

Senator CARROLL. Would you say that his viewpoint is the same today as it was in May of 1960, when he testified?

Mr. REYNOLDS. Yes, sir. About 30 days ago, he told me that Colorado had no objection to the language of S. 107.

Senator CARROLL. I want to say, Mr. Chairman, that that is my understanding, also. Mr. Sparks will not be here as a witness. And while I have not had a chance to talk with him personally, this is my understanding of what would be the nature and effect of his testimony.

Has anything arisen recently between Colorado and New Mexico that would change the purport of his testimony, given in May of 1960, on this project?

Mr. REYNOLDS. No, sir.

The CHAIRMAN. May I ask, with reference to a letter from the Secretary of the Interior: He recommends that some action be taken with reference to section 8(a) and recommends that this section be eliminated or changed. Would the elimination of that section affect the State of Colorado or cause any trouble with it?

It was put in at Colorado's suggestion, but in view of the clear language of the Secretary of the Interior, that might clear up the questions that they had previously.

Mr. REYNOLDS. If I may I would like Mr. Mann to attempt that answer, since it is a legal question.

The CHAIRMAN. Mr. Mann?

Mr. MANN. Senator, although I feel personally that it is not necessary to have that section in the bill, after all, it was put in at the request of Colorado, through our negotiations. And that being true, we would not like to be put in a position of speaking for Colorado. We would have no objection personally to its elimination, but we would not want to cross Colorado, after having agreed that the section be in the bill, by recommending that it be deleted.

So we feel that the section should be in the bill, because of our agreement with Colorado.

The CHAIRMAN. Then I am just trying to find out what we ought to do next. Should we not discuss this point with the Secretary of Interior and the representative of the State of Colorado?

Mr. MANN. I think that is correct.

The CHAIRMAN. And if there is any final doubt on it, would you think that you and Mr. Reynolds and Mr. Sparks and others might come in and sit down with the Secretary on that?

Mr. MANN. We certainly would be glad to do so, Senator.

The CHAIRMAN. This was language that when I first saw it I did not think it needed to be in the bill; but Colorado wanted to be really sure about it. And I think the statements of the Secretary of Interior may help to clear it up.

But at any event, it is a matter that ought to be cleared up. And you think the language should remain in the bill until we have a chance to discuss this with Colorado?

Mr. MANN. I think it is only fair to Colorado that it remain in the bill until they agree to its deletion.

Senator CARROLL. I want to say, Mr. Chairman, that all of Colorado is not in complete agreement about some of these projects. And Mr. Sparks and the Colorado Water Conservation Board is trying to cooperate with New Mexico in this matter. We have a certain section of the State that had raised some serious questions about the original San Juan-Chama bill.

I do not know whether this amendment relates to that or not, and I would hope that, following the suggestion of the chairman, we would do all we can to cooperate with one another. If necessary we can get an opinion from Mr. Sparks, director of the Colorado Water Board.

Mr. Dominy has not testified yet on this matter. Is that so, Mr. Dominy?

Mr. DOMINY. I have testified on the Department's position here this morning in favor of this bill. The only reason we mention section 8(a) for possible deletion or adjustment is to clear up any ambiguities. We are not positive what the intent of section 8(a) is, as it is now phrased.

If it is merely to reaffirm what is already in article VII of the Colorado River compact, it gives us no trouble.

The CHAIRMAN. But right on that point: Could we not, by our legislative history, confine it to that point and thereby resolve the problem with Colorado by not taking it out of the bill?

I would not want to take it out of the bill. I think it would be much better if we could clarify by legislative intent what was meant by it.

Mr. DOMINY. That was the sole purpose of our bringing it to the committee's attention, that we all understand what is intended by section 8(a).

Senator CARROLL. Colorado, if I may so say at this point, Mr. Chairman, has spent a considerable amount of its own money looking into the engineering on this project and also the law and the Supreme Court decisions affecting the project. We have had many conferences, some I know, with Mr. Reynolds on this matter, and the Colorado Water Board has had to go into some of its own water districts and try to satisfy them.

I should hope, therefore, that there would not be any substantial change over that which had previously been agreed to. So if we can create and make legislative history, I think that would be advisable.

The CHAIRMAN. Thank you very much.

I appreciate that, Senator Carroll.

Are there other questions?

Thank you very much, Mr. Reynolds and Mr. Mann.

The CHAIRMAN. Now we have representatives of the Navajo Tribal Council. I might say the Navajo Tribal Council became interested in the legislation and was very, very helpful in the passage of the Upper Colorado River storage pact. This might give them a chance to get back a little from the very fine effort that they put into that venture.

As many of you know, the Navajo Tribal Council has a very unique business office. It has engineers and the finest of accounting equipment and keeps a very fine record of its oil leases. I would also say they are very good business negotiators. The Navajos ended up with 75 percent or more of the royalties on one lease, which is not the usual take. They are good business people, and we welcome them here today.

Mr. McCabe, will you present your statement?

Maurice McCabe is the executive director of the Navajo Tribal Council.

**STATEMENT OF J. MAURICE McCABE, EXECUTIVE DIRECTOR,  
NAVAJO TRIBAL COUNCIL; ACCOMPANIED BY NED A. HATATHLI,  
DIRECTOR OF RESOURCES; AND HOWARD W. GORMAN, CHAIR-  
MAN OF THE RESOURCES COMMITTEE OF THE NAVAJO TRIBAL  
COUNCIL**

Mr. McCABE. Mr. Chairman and members of the committee, my name is J. Maurice McCabe. I reside at Window Rock, Ariz., and am appearing on behalf of the Navajo Tribe of Indians, of which I am the executive secretary. With me today are Ned A. Hatathli, director of resources, and Howard W. Gorman, chairman of the Resources Committee of the Navajo Tribal Council. We are appearing to urge early authorization of the Navajo Indian irrigation project in the State of New Mexico, through Senate bill No. 107, introduced by the chairman of the Senate Interior and Insular Affairs Committee, the Honorable Senator Clinton P. Anderson.

The Navajo Tribe desires to state in his hearing its appreciation for the efforts of Senator Anderson to see this irrigation project authorized. His foresight and untiring efforts have provided many benefits for the whole Southwest and for the Navajo Indian Tribe. We appreciate those efforts.

The Navajo Indian irrigation project, as described in the supplemental feasibility report, would consist of 110,630 acres of irrigated land for exclusive Navajo Indian use in San Juan County, N. Mex. All of the project except 8,915 acres will be on the present Navajo Indian Reservation. The additional acreage will be placed in reservation status, and the Navajo Tribe will pay the land acquisition costs. The purpose of adding this acreage to the reservation is to make the most compact and economical project feasible for Indian use.

The CHAIRMAN. May I stop you there?

How many acres was that, again?

Mr. McCABE. 8,915.

The CHAIRMAN. So that it is proper to say that of the 110,000 acres, more than 100,000 are already in the Navajo Reservation?

Mr. McCABE. Yes, sir.

The CHAIRMAN. And you propose to put the remaining acres in, so that you have a compact unit. The Navajos will make the arrangements for this additional acreage, themselves?

Mr. McCABE. Yes, sir. And the appraisal and the inventory of those lands is presently underway, and we are hopeful that in the near future this acreage will be acquired.

The CHAIRMAN. I am glad you covered that in your statement, because I was asked that question a few days ago, as to this acreage, and I was not in a position to be able to give the information at that time. This figure corresponds with the information given me by the engineers' office at Santa Fe, and would indicate that the great bulk of this land is already reservation land.

Mr. McCABE. That is correct.

The CHAIRMAN. Thank you.

Mr. McCABE. The plan also calls for providing additional canal capacity for delivering water for industrial and municipal use from Navajo Dam, over and above the diversion requirement of the irrigation project. Such additional capacity would be paid for by the industrial and municipal water users with interests. All water users from Navajo Dam would have equal priority.

The Navajo Tribe has consented to this, and relinquished its rights under the Winters doctrine for the water necessary to irrigate the Navajo Indian irrigation project, in order to provide a practicable plan for comprehensive development of the resources and industrial potential of the San Juan Basin. We have taken this important step because such development is necessary for our very survival.

In 1868 the United States, by treaty, promised 160 acres to any Navajo Indian head of a family and 80 acres to any other Navajo Indian over 18 years old who should desire to commence farming on the Navajo Reservation. Already at that time there were about 10,000 Navajo Indians. Obviously, if the treaty obligation is to have significance, irrigation is the most practicable solution.

In the 1868 treaty we were forced to cede all but 3,500,000 acres of our original country of more than 30 million acres. At the same time we agreed to perpetual peace with the white man, and the Government agreed to make farmland available to our members, as I have stated above, and to provide a schoolroom and teacher for every 30 of our children.

Since 1868 our population has grown to over 85,000 and is currently increasing at the rate of about  $2\frac{1}{4}$  percent per year. Our reservation has been increased in area to 25,000 square miles, or about 16 million acres, but the added areas, consisting largely of desert land, have not kept pace with the minimum needs of our increased population.

Federal assistance to the Navajo Indians has been invariably too little and too late. Our country is a seriously depressed area, and **in its present state cannot be reasonably expected to improve.** What-

most compact and economical project feasible for Indian use.

ever improvement is effected must result from increasing the agricultural potential and industrialization.

For 1958, the last year for which we have figures available, the estimated average per capita income of a Navajo Indian was \$467, compared with a national average of \$1,940 per capita. Approximately 16.2 percent of individual Navajo income derives from welfare, unemployment compensation, and similar sources; 83.8 percent is earned income.

It is obvious that the Navajo people in their present condition are a drain upon the economy of New Mexico, and in fact of the entire Nation. It is equally obvious that prosperous Navajo people supporting themselves on their own land at the average American standard of living would be a great benefit to the economy of the States in which they reside and of the entire United States.

Many of our Navajos have accepted jobs on the track gangs of railroads. That work has contracted sharply, due to increased mechanization and to closed shop unionization agreements, the Sante Fe Railroad being the last carrier to adopt such an agreement. We are now working on development of our coal deposits. Although coal mining has been a weak and hazardous industry almost as long as I can remember, utilization of our coal reserves to fire thermoelectric plants gives some promise of benefiting our Navajo economy. This will, of course, require water, which in large part we hope to obtain from the municipal and industrial water supply features of the Navajo Indian irrigation project.

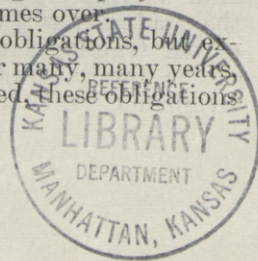
However, with the Navajo population increasing at such a rate that it is estimated that it will equal 300,000 in the year 2,000—only 40 years from now—it is obvious that massive and heroic measures must be taken, and at once.

The Navajo Indian irrigation project is such a measure. It will provide 1,120 family farms for Navajo Indians. It will give a livelihood in related service activities to another 2,240 families, thus providing a decent living for at least 12,000 Navajo Indians. These figures have been supplied by the Bureau of Indian Affairs. Actually, I feel they are excessively conservative.

I feel that the availability of adequate industrial and municipal water supplies in the San Juan Basin, together with abundant natural resources, mild climate, large Navajo labor pool, and a basic local market including the 12,000 people to be supported by the irrigation project, will provide the launching pad for substantial economic growth.

Under the Upper Colorado River project legislation, the Navajo Indian irrigation project is said to be nonreimbursable. This to us simply means the Indian farmers will not have to repay directly to the Federal Government the cost of the irrigation features of the project. But they, like all other Americans, will pay income and excise taxes to the Federal Government. If the experience of the Salt River project in Arizona is any criterion, and I am sure it is, the Federal taxes generated by the Navajo Indian irrigation project will repay the costs of its irrigation features many times over.

The Federal Government has not only moral obligations, but explicit treaty obligations to the Navajo Tribes. For many, many years, although the appropriations have steadily increased, these obligations



have not been completely fulfilled. The Navajos remain in substantially the same situation in which they have been since the Second World War, that is to say, the range is not capable of supporting sufficient livestock to give the tribal members a subsistence income; the limited areas adaptable to agriculture are insufficient to sustain even a small portion of the population, and even our industrialization program depends upon the approval of this project and the subsequent authorization pursuant to section 4 of the bill, of the right to divert sufficient quantity of water to guarantee the continued operation of such industrial plants as we are able to bring to the reservation.

As I see it, the economic value of the Navajo irrigation project is that it also makes possible and feasible industrialization of substantial areas of the reservation, which will provide my people permanent employment and job opportunities which will, to a large extent, overcome the economic plight with which they are now confronted.

Some of you may wonder why Federal expenditure is still necessary for rehabilitation of the Navajo people, in view of our recent large oil income. Paul Jones, the chairman of the Navajo Tribal Council, covered this subject in this statement to this committee on S. 3648, of the 85th Congress.

Briefly, he stated that the total cash balance of the Navajo Tribe, of approximately \$65 million, was less than half the total cost of the Navajo Indian irrigation project—\$134,359,100, 1958 figures.

He stated that we Navajos do not use our oil income for per capita distribution, but we use it to provide needed public improvements and for services to our people, such as are provided by the States in the case of the white people.

We are also making capital investment of our funds, and are expending \$7,500,000 for a new sawmill, which will give employment to about 500 of our people, and support their families.

In Mr. Jones' 1958 statement to this committee, he also mentioned our farm training program, which, incidentally, was mentioned by one of the former people who gave testimony.

The program has been even more successful than we then contemplated.

We have a 1,200-acre farm near Shiprock, N. Mex., upon which we train 24 Navajo farmers at a time in modern, scientific, irrigated farming. To date we have graduated 15 men as fully qualified irrigation farmers. Due to delay in subjugating lands on existing irrigation projects on the reservation, only nine of these men are actively farming.

We have invested about \$500,000 in our farm training program, and so efficient has been the operation of this program that our training farm has returned to our treasury \$22,000 in fiscal year 1959, and \$34,000 in fiscal year 1960. This is true, although we never intended it to be a profit-making enterprise.

For the graduates who are placed on farms of their own, we make available loans from our revolving credit fund. When the Navajo Indian irrigation project is authorized and farmland for placement of the graduates will be readily available, we can expand the capacity of our training farm to classes of nearly 40 people each year.

The Intermountain School of the Bureau of Indian Affairs at Brigham City, Utah, has a similar program which turns out about 10

or 12 graduates a year, all of them Navajos. Two or three completely illiterate Navajos have completed our farm training program. They were illiterate when they entered the program, but they knew how to read and write English when they graduated, in addition to being qualified irrigation farmers.

In the operation of our training farm we have learned what crops are most feasible and yield the highest return on soils similar to that of the proposed Navajo Indian irrigation project. We have found that 3 crop-years of alfalfa will build up the soil, and that thereafter, without missing a single crop-year, the lands can be sown to a number of grasses, and will produce superior irrigated pasture, capable of supporting 2 cows or 10 to 12 sheep per acre. Our training farm produces 6 tons per acre of alfalfa. The proposed Navajo Indian irrigation project should be just as productive.

The actual cash crop of the farmers will be the livestock they feed from their pasture crops and certain truck farm products. We do not plan to produce any crops which are currently in surplus. With increased population in the San Juan Basin, undoubtedly a market for dairy products will also develop from the project lands. In addition, truck farm products will move to Southwestern population centers, which are not too far distant.

By means of our training farm we are already producing fully qualified farmers to take over individual farm units on the proposed Navajo Indian irrigation project, and we are solving in advance the agricultural problems of similar soils under similar climatic conditions. We are ready for the project.

I do not wish to speak in detail on the form of legislation to authorize the Navajo Indian irrigation project. We have agreed with the State of New Mexico that the Navajo Indian irrigation project and the San Juan-Chama project should be presented as a package. We adhere to that agreement.

Our representatives have participated in a series of meetings last year with representatives of the State of Colorado in order to meet Colorado's objections to our proposals.

We have not committed ourselves to the form of legislation which has been worked out between New Mexico and Colorado officials. However, we are willing to go along with any reasonable form of legislation.

We understand that it is now proposed to give water users on the Animas River in Colorado exchange storage rights in the Navajo Reservoir. So long as these exchange storage rights have no priority over use of water on the proposed Navajo Indian irrigation project, we can go along with the proposal; but believe it only fair that we should have exchange storage rights in any reservoirs which may be constructed on the tributaries of the San Juan in Colorado.

We cannot agree, however, to any proposal to grant Colorado water users a reserved amount of exchange storage in Navajo Reservoir which would have a higher priority than water for the Navajo Indian irrigation project. We do not believe that Colorado will insist upon such an unfair proposal.

Mr. Chairman, it is my earnest hope that the bill before the committee will receive its favorable consideration. The potential benefits to the Navajo people of this legislation are very great, indeed, and by

the measure of our improved economic independence and stability, there follows a corresponding reduction in the present burden upon the Government.

Thank you very much.

The CHAIRMAN. Thank you very much, Mr. McCabe.

Mr. Hatathli, have you a statement to make?

Mr. HATATHLI. No, Mr. Chairman. I am here to answer any questions, if there are going to be any.

The CHAIRMAN. I just want you people to recognize that Mr. Hatathli is in charge of industrial development for the Navajo Tribe, and he handles a business that is comparable to many very substantially sized American businesses—and does it very well, too; I will add.

Mr. Gorman, do you have any statement you wish to add?

Mr. GORMAN. No, Senator. Not at this time.

The CHAIRMAN. May I ask a question first of Mr. McCabe?

You have a scholarship fund, do you not?

Mr. McCABE. Yes, sir, we do.

The CHAIRMAN. How many million dollars?

Mr. McCABE. There is \$10 million of tribal funds set aside for a scholarship program.

The CHAIRMAN. It is a very fine thing. Lots of people say, "Why do the Navajos want an irrigation project?"—when you are trying constantly, are you not, to improve the standards of your people and their educational qualifications?

Mr. McCABE. Yes, sir. We are very hopeful, Senator, that with our products, if I may call them that, or graduates of our scholarship program, we will have the necessary technicians to assist the tribe and to make it possible for the tribe eventually to operate that project.

The CHAIRMAN. It is not unreasonable that you would have an agricultural development, is it? You have a sawmill operating now. You have an additional sawmill coming along, that will use several hundred people?

Mr. McCABE. Yes; we do. We have a present mill, with a payroll of some 340 people. A new sawmill which will cost in the neighborhood of some \$7 million is currently being constructed, and it will have a payroll of approximately 500 people.

And these people that I speak of, employees, are family heads, and of course their families increase the number of the population or the workers that are employed at the sawmill.

The CHAIRMAN. You have interests in uranium and oil and gas and helium. You try as far as possible to use Navajos in furthering these programs, do you not?

Mr. McCABE. It is the policy of the council, Mr. Chairman, to develop technicians and leadership in all phases of tribal operations, including the development of resources, industrialization, and all other types of development.

The CHAIRMAN. You mentioned the fact that they have an agricultural training school. I have seen the products of that agricultural training school. And when we talk about the farm problem here in Congress, here is a group that has operated a farm program at a very substantial profit. I think that speaks very well for what you will do in the conservancy district when you get a project that is built.

Are there any questions of these representatives of the Navajo people?

Senator CARROLL. Mr. McCabe, I think I would like to ask a question.

Have you been in on these conferences, the meetings with New Mexico and Colorado?

Mr. McCABE. Senator, I have not personally sat in on the negotiations. However, I am advised by representatives of the Navajo Tribe that we will support any reasonable legislation that will authorize the Navajo Indian irrigation project.

Senator CARROLL. One of the reasons I ask the question is because you say that, "We do not believe that Colorado will insist on such an unfair proposal." Have they ever asked for it?

Mr. McCABE. I believe that our statement, Senator, is developed to place the proper emphasis on the support for the Navajo Indian irrigation project. I do believe that our representatives in their report to me have indicated quite satisfactorily the fact that the negotiations between the State of New Mexico and the State of Colorado are satisfactory to the Navajo Tribe.

Senator CARROLL. Study of this project has been going on for several years by the Colorado Water Board. We have had to get many concessions because of the feeling of our own people. Most of this water originates in our State, and therefore our people feel we have a substantial claim to it. It is a little difficult, sometimes, to sell these programs to our people.

But there has been this agreement between the Governors of Colorado and New Mexico and the engineers in our States. We have worked out an equitable program. And I am wondering if there was anything that you know about that you would consider to be unfair. I had not heard of this problem before.

And I think, Mr. Chairman, I will ask unanimous consent to put into the record at this point the testimony of Mr. Felix Sparks, who is the director of the Colorado Water Conservation Board, an official agency of the State of Colorado, which was given before the House Committee in 1960, and outlines what we have done, the years of study we have given, the money we have spent, and what we expect in the way of protection; because, you see, we are also tied up in this Animas-LaPlata project.

You understand that?

Mr. McCABE. Yes, sir.

The CHAIRMAN. We will put in the record at the request of the Senator from Colorado this statement.

(The statement of Felix Sparks, director of the Colorado Water Conservation Board, follows:)

STATEMENT OF FELIX L. SPARKS, DIRECTOR, COLORADO WATER CONSERVATION BOARD, DENVER, COLO., BEFORE HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

Mr. SPARKS. Mr. Chairman and members of the committee, my name is Felix L. Sparks and I appear here as the director of the Colorado Water Conservation Board, an official agency of the State of Colorado. I am also the Governor's designated representative under the 1944 Flood Control Act for coordination of planning reports on water resources development, involving waters which have their origin in whole or in part within the State of Colorado.

With specific reference to the type and subject matter of the legislation now being considered by this committee, the Legislature of the State of Colorado has imposed the following duties upon our board and I quote from our statutes:

"To investigate the plans, purposes, and activities of other States, and of the Federal Government, which might affect the interstate waters of Colorado; and

"To confer with and appear before the officers, representatives, boards, bureaus, committees, commissions, or other agencies of other States, or of the Federal Government, for the purpose of protecting and asserting the authority, interests, and rights of the State of Colorado and its citizens over, in, and to the waters of the interstate streams in this State."

In response to these statutory duties we began several years ago, and have continued to this date, a thorough and exhaustive engineering and legal analysis of effects of the proposed Navajo irrigation and San Juan-Chama projects on the water supply of the State of Colorado. This study was particularly prompted by the fact that virtually all of the San Juan Basin water originates in Colorado, and is the sole source of supply for that sizable portion of the basin which lies within our State.

There has been considerable testimony concerning the Navajo Indian tribal lands, rightly so in this case. I would like to observe that a large portion of the San Juan Basin in Colorado is occupied by two Indian reservations, the Ute Mountain Tribal Reservation and the Southern Ute Tribal Reservation. All our projects in that area contemplate, in part, delivery of water to those two tribal reservations.

The average annual virgin flow of the San Juan River originating in Colorado and New Mexico is 2,256,000 acre-feet. Our recently completed studies indicate that the maximum streamflow depletion in Colorado in the foreseeable future will not exceed 300,000 acre-feet per annum. The maximum depletion to which the State of New Mexico is entitled in perpetuity under the terms of the Colorado River compact and the Upper Colorado River Basin compact is 838,125 acre-feet of water annually. The combined use of both States, therefore, in the foreseeable future, could amount to only about 50 percent of the total streamflow. When viewed in the light of the Colorado River compact, it is doubtful that even this 50-percent use will ever be attained.

Average streamflows, however, are dangerously misleading. We have, therefore, carefully reconstructed the operation of Navajo Reserve and the San Juan-Chama project on a day-to-day, month-to-month, and year-to-year basis upon the framework of historic conditions during a period of adverse streamflow, 1943-56.

The streamflow of that period was only 70 percent of the historic streamflow. This reconstructed operation was correlated with the assumption of optimum water uses in the State of Colorado. The results convincingly demonstrate that the proposed New Mexico development will fall far short of imposing any demand on water uses in the San Juan Basin within Colorado, either present or contemplated, including the proposed Animas-La Plata project in Colorado.

Our studies have been based upon certain assumptions concerning the operational aspects of the New Mexico projects now under consideration. In order that these assumptions be firmly established, we have negotiated at length with the State of New Mexico to the end that the pending legislation be more explicit as to the method of project operation. I am pleased to say here that an agreement has been reached between our two States in the form of amendments to the bills now before this committee. These amendments have been approved by the Governors of the two States, and by the respective responsible State agencies, to wit, the Colorado Water Conservation Board and the New Mexico Interstate Streams Commission. I must add, however, that the approval of the State of Colorado is predicated upon a finding by the Secretary of the Interior that the operation of the New Mexico projects will not adversely affect the water supply of the proposed Animas-La Plata project in Colorado and New Mexico. From our own studies we have concluded that it is highly improbable that the Secretary could make any finding to the contrary. I ask the indulgence of this committee in submitting as a part of this statement a reproduction of H.R. 2352 setting forth the proposed amendments, and bearing the heading "Colorado Water Conservation Board, May 11, 1960."

I shall not dwell at any length upon the proposed amendments since they are, for the most part, self-explanatory. I do wish to emphasize for the record, however, that our operational studies were in the first and final instance premised upon the assumption that the Secretary of the Interior would operate Navajo

Reservoir for one of the primary purposes for which it was authorized, that is, for the regulation of the San Juan River for the benefit of all the upper basin States. This means to us that in any year in which New Mexico has water available or it can be reasonably anticipated that water will be available for its full allocation under the terms of the upper Colorado River Basin compact, from any and all sources, then Navajo Reservoir must be operated to release either stored water or stream inflow to satisfy New Mexico uses from or below the reservoir. In referring to New Mexico uses, we are speaking of those uses which, without the existence of Navajo Reservoir, might constitute a legal demand against the State of Colorado for the release of natural streamflow. This means in essence that there will be times when the Secretary must release water from or through Navajo Reservoir, irrespective of actual contractual obligations entered into pursuant to the legislation here under consideration.

In further explanation of the foregoing, it is our interpretation of the upper basin compact, when considered in light of the Colorado River compact, that New Mexico's depletion allocation must be based upon an average annual depletion computed from any period of 10 consecutive years reckoned in continuing progressive series. This compact interpretation, along with the assumed operation of Navajo Reservoir before described, is an integral part of the agreement arrived at between the States of Colorado and New Mexico as it pertains to H.R. 2352.

Actually, we consider these amendments more than adequate to insure the operation of Navajo Reservoir and the San Juan-Chama project in conformity with our study assumptions. This view may not be shared by everyone in Colorado. As a matter of fact, unanimous agreement on water resource projects anywhere is about as likely as Khrushchev welcoming further reconnaissance flights over Russia. Nevertheless, we have patiently explored every objection at a great expenditure of both time and money. We have concluded that any objections to the proposed legislation, as amended, based upon injury to Colorado, have no foundation in fact, and by no logic could be the basis for destroying or delaying the development of the water resources of the State of New Mexico.

More than our concern for New Mexico, however, is the fact that the operation of Navajo Reservoir will confer a considerable benefit upon water users in Colorado. In Navajo Reservoir can be stored the floodflows of the San Juan River. Such flows exist every year in varying degrees of magnitude. By the utilization of these surplus flows in New Mexico, future demands against the State of Colorado for the sharing of direct streamflow will be materially reduced. Indeed, the only possible way to permit the maximum use of San Juan River waters in both Colorado and New Mexico is through the operation of a structure such as Navajo Dam.

In addition to the foregoing statements, it is our position that the State of New Mexico is entitled to the water guaranteed to it by the Upper Colorado River Basin compact, even though the water may originate entirely in Colorado. We are also fully convinced that the projects here under consideration are justifiably necessary to the expanding economy of New Mexico. We therefore respectfully urge this committee to pass favorably upon the pending legislation with the amendments herein proposed, to authorize the Secretary of the Interior to construct, operate, and maintain the Navajo irrigation and San Juan-Chama projects in the State of New Mexico.

The CHAIRMAN. I might probably help to explain your statement by pointing out that, as he said a moment ago, not all portions of the State of Colorado were completely agreed on this project in the beginning, and on the needs of water in the beginning.

I think the exchange of water on a unilateral basis came from some people in the southeastern part of Colorado and was satisfactorily worked out by Mr. Sparks and his group. Therefore, I think you are satisfied with Mr. Sparks' development, are you not, Mr. McCabe?

Mr. McCABE. Yes, Mr. Chairman.

Senator CARROLL. Just one other point. Has the Secretary's report been placed in the record?

The CHAIRMAN. Yes, it has.

Senator CARROLL. Fine. I would just like to point this out, because this record will be sent to Colorado. I expect it will be sent in, because Mr. Sparks is not here. I want to put in the last paragraph of page 5 of the Secretary's report, which raises this point of the retention of section 8(a) and leaves this matter open to us, as a legislative body, to talk about, to defer, to discuss.

I do not agree with the Secretary of Interior's conclusion about one aspect of section 8(a), and I want to get some clarification from my own State on this matter.

The CHAIRMAN. I am sure that the committee will not take any action on this bill until we do have this clarification, because the representatives of New Mexico indicate that they would want a chance to confer with Colorado.

That would be your position, too, would it not, Mr. McCabe?

Mr. McCABE. It would be.

The CHAIRMAN. Thank you very much.

I am sure that you and Mr. Hatathli and Mr. Gorman can go home with our appreciation for the fine presentation that has been made there this morning.

I did not ask earlier if Governor Mechem has authorized anyone to speak for him in favor of this bill. I know he is in favor of it. He sent me a letter stating he could not come. It was a nice personal letter.

Mr. Mann or Mr. Reynolds, are you familiar with the Governor's position?

Mr. REYNOLDS. Governor Mechem has authorized me to speak for him in this matter. He deeply regrets that he could not be here today. He is very busy considering bills approved by the 25th session of our legislature, which has just adjourned. He strongly supports the authorization of these projects. He has earlier expressed his full approval of the language of S. 72 of the 86th Congress. He did not participate in the negotiations which brought about the changes giving us the language of S. 107. However, in the interests of interstate comity, in the interests of the early authorization of these projects, he offers no objection to those changes.

The CHAIRMAN. Thank you very much.

I have here a letter from the Bloomfield Irrigation District in opposition to the bill and a resolution from the Bloomfield Irrigation District, the Jaquez Ditch Co., the Pump Ditch Co., and the Turley Ditch Co.

Those will be put in the record.

(The letter and resolution referred to follow:)

BLOOMFIELD IRRIGATION DISTRICT,  
Bloomfield, N. Mex., March 13, 1961.

HON. CLINTON P. ANDERSON,  
Senator for New Mexico,  
Chairman, Interior and Insular Affairs Committee,  
Washington, D.C.

DEAR SENATOR ANDERSON: The board of directors of Bloomfield Irrigation District has instructed me to mail the enclosures to you, with their request that it be entered as part of the record of the scheduled meeting of your committee.

While we know this is at variance with your own (and some other) opinion, it does represent, we think, a sufficiently large group to merit consideration. We thank you for that.

Yours very truly,

D. A. MARTIN,  
Secretary, for the Board of Directors,

BLOOMFIELD IRRIGATION DISTRICT,  
Bloomfield, N. Mex., March 11, 1961.

HON. CLINTON P. ANDERSON,  
Chairman and Members of the Interior and Insular Affairs Committee, U.S.  
Senate, Washington, D.C.

GENTLEMEN: We refer you to a portion of the record of the hearings before the Subcommittee on Irrigation and Reclamation of the Committee on Interior and Insular Affairs, U.S. Senate, 83d Congress, June 28-30, July 1-3, 1954.

The record of these hearings shows that Senator Anderson presented to the subcommittee at that time protests of Turley Ditch Co., Jaquez Ditch Co., Pump Ditch Co., and Bloomfield Irrigation District in opposition to authorization of the San Juan-Chama project. The record referred to appears on pages 461-464 of the volume we have at hand. As the largest users of water from that part of the San Juan River, with which we are now concerned, we have been authorized to speak for the other groups named above.

Our purpose at this time is to call that record to the attention of the committee, to reiterate its salient points, to ask that it be included as part of the testimony being presented to this committee, and to add to that presentation some information not available to us in 1954. Obviously, some of the wording of that presentation needs to be read in the light of changed planning; e.g., reference to the south San Juan, which is now included in and made part of the Navajo irrigation project. (Our reference to p. 146 of the Colorado River should read: "p. 146 of 'The Colorado River,' a publication of U.S. Department of the Interior, Bureau of Reclamation, 1946.")

We note from the record of the 1954 hearings that, in answer to questions of Senator Anderson, now chairman of your committee, Mr. Erickson, then State engineer of New Mexico, stated that we had "a very special problem" and that "the State has recognized (the existence of) this problem and has solicited the help of the Bureau of Reclamation to try to solve the difficulty."

In 7 years there has been no answer to that problem. Ignored entirely, the problem is no nearer solution than when first brought to the attention of the State in 1953, except that a study by the U.S. Geological Survey more than confirms the fears we expressed in 1954. At that time we were without detailed information on the sedimentation danger except that to be drawn from many years experience in the operation of irrigation ditches and the handling of sediment problems of infinitely less magnitude, but of sufficient importance to enable us to foresee the certain result of the greater problem with which we were to be confronted.

The study referred to covers 3 years' sampling of the San Juan River at two stations; Archuleta, just below the Navajo Dam, and at Bloomfield. It is presumed that the Archuleta sediment will be held in the Navajo Dam, though that load was measured at Bloomfield along with the contribution of sediment between the two stations. So that the total of 26,473,422 tons at Bloomfield, less the Archuleta total of 11,251,329 tons, or 15,222,093 tons should be accepted as the contribution of sediment between the Navajo Dam site and Bloomfield. Projected for 100 years forecasts a total of 507,403,100 tons to which we should add some 95,232,000 (rounded) tons for the contribution of Kutz and Gallegos Canyons and a number of smaller arroyos between Bloomfield and the mouth of the Animas River at Farmington. We estimate the total to be in excess of 300,000 acre-feet. If this sounds like a fantastic figure, we refer the committee to page 163 of "The Colorado River," from which we quote: "The San Juan River \* \* \* contributes about one-quarter of the silt passing Grand Canyon \* \* \* storage capacity in Lake Mead is being reduced an estimated 137,000 acre-feet a year by the deposition of this silt". We think this comment makes our estimate appear very modest.

Being only farmers, we hesitate to quote figures on the water supply, but some obvious differences between the actual water supply and the figures used for "planning purposes," should be called to the attention of the committee. On February 8, 1958, the Farmington Times quoted an announcement by the Reclamation Bureau that an average of 12,342,900 acre-feet of water had passed Lee Ferry during the past 35 years. On January 26, 1961, the New Mexico State engineers office in Santa Fe reported that an average of 1,918,000 acre-feet of water is being used by the upper basin States. The total of the two figures, 14,260,900 acre-feet, would be the figure for the average annual runoff of the Colorado River at Lee Ferry, the point set up by the Colorado River Compact for the division of the Colorado River water between the upper and lower basins.

By reducing this figure on account of the commitments to the lower basin States, to the Republic of Mexico, 50,000 acre-feet annually to Arizona, evaporation losses from main-stem reservoirs and Navajo Dam, 131,300 acre-feet, we can only come up with figures very far short of those used by officials of the State of New Mexico and other proponents of the San Juan-Chama project for "planning purposes." We trust that the committee will make sure of the difference between the two sets of figures before giving the proposed legislation a "do pass" report.

One other item of the most serious nature lies in the field of water use. We refer to the allocation of 252,300 acre-feet of water for consumptive use on 110,000 acres of land under the Navajo irrigation project. White farmers in San Juan County have an adjudication of 3 acre-feet of water per acre on lands of similar quality and know that the 2.3 acre-feet per acre allocated to that project is insufficient.

Respectfully submitted.

TURLEY DITCH Co.,  
 UBALDO J. LOBATO, *President.*  
 PAT MONTOYA, *Member of Board.*  
 WALTER M. KNIGHT, *Member of Board.*  
 PUMP DITCH Co.,  
 EPIFANIO LOPEZ, *President.*  
 PABLO GONZALEZ, *Member.*  
 ELIAS ULIBARRI, *Member.*  
 BLOOMFIELD IRRIGATION DISTRICT,  
 J. E. CRAWFORD, *President.*  
 UBALDO MADRID, *Member of the Board.*  
 JOE SALMON, *Member of the Board.*  
 JAQUEZ DITCH Co.,  
 MILTON J. ARCHULETA, *President.*  
 MANUEL PACHECO, *Member of the Board.*  
 JOE ATENCIO, *Member of the Board.*

The CHAIRMAN. I also have a letter from the Elephant Butte Irrigation District. Mr. Gregg was not here to testify, but he desires this letter to be placed in the record.

(The letter from the Elephant Butte Irrigation District referred to follows:)

ELEPHANT BUTTE IRRIGATION DISTRICT OF NEW MEXICO,  
*Las Cruces, N. Mex., March 6, 1961.*

Senator CLINTON P. ANDERSON,  
*U.S. Senate,*  
*Washington, D.C.*

DEAR SENATOR ANDERSON: Please insert this letter in the record of the hearings to be held on March 15, 1961, on the San Juan-Chama project (S. 107).

The Elephant Butte Irrigation District, located in Dona Ana and Sierra Counties, in southern New Mexico, presented a statement in opposition to the authorization of the San Juan-Chama project before the Subcommittee on Irrigation and Reclamation of the House Committee on Interior and Insular Affairs at a hearing held on May 20, 1960, on H.R. 2352, H.R. 2494 and S. 72. This statement appears on pages 169 to 172, inclusive, of the record of the above hearing.

The board of directors of the Elephant Butte Irrigation District sees no reason to change the statement made on its behalf at the above hearing. Its position regarding the proposed San Juan-Chama project remains the same as outlined at that hearing. In the opinion of the board, the reasons for its position in opposition to the authorization of the San Juan-Chama project, as outlined in the statement presented on May 20, 1960, remain valid.

Very truly yours,

JOHN L. GREGG, *Treasurer-Manager.*

The CHAIRMAN. We have just received the San Juan County Farm and Livestock Bureau report. It supports the Navajo Indian irrigation project, but is opposed to San Juan-Chama. Their letter and resolution will be put into the record at this point, and the peti-

tion they submitted will be incorporated by reference and placed on file.

(The letter and resolution referred to follows:)

SAN JUAN COUNTY FARM AND LIVESTOCK BUREAU,  
*Aztec, N. Mex., March 13, 1961.*

HON. CLINTON P. ANDERSON,  
*Senate Interior and Insular Affairs Committee,  
Washington, D.C.*

DEAR SIR: Enclosed please find testimony and information pertaining to the San Juan-Chama diversion project on the Upper Colorado River.

The San Juan County Farm and Livestock Bureau, along with other supporting organizations and individuals (attached hereto), wish to have the following testimony and supporting evidence discussed and made a part of the hearing, March 15, 1961, in the Senate Committee of Interior and Insular Affairs.

Very truly yours,

ALTON K. BROWN, *President.*

SAN JUAN COUNTY FARM AND LIVESTOCK BUREAU,  
*Aztec, N. Mex., January 17, 1961.*

*To Whom It May Concern:*

A resolution of San Juan County (New Mexico) Farm and Livestock Bureau protesting consideration of legislation authorizing the San Juan-Chama project, approved by the voting delegates in November, 1960.

#### FOREWORD

San Juan County Farm and Livestock Bureau is a local organization composed of 250 farm families. While its interests are primarily agricultural, it is concerned with the general welfare, the educational, cultural, economic and industrial development of the area. Its members are friends, neighbors, and associates of other farmers, business and professional men, our children and theirs will be the next generation and parents of the one following. Our concern for their future is understandable.

Up to this time, there has never been an effective presentation of the prevalent view of opposition to the San Juan-Chama project as approved by the officials of the State. Those persons taking an active interest in presenting San Juan County's projects insisted that any opposition to the San Juan-Chama project would wreck plans for the Navajo Dam, itself vitally necessary to San Juan County's use of San Juan River water. Objection to the accepted program was discouraged. Any testimony adverse to such program was most unwelcome. No effort has ever been made toward conciliation of the conflicting viewpoints.

Western New Mexico is a dry land, in which the only variation is in the severity of the drouth that never ends. Without the snow and rain that fall on the headwaters of the Rio Grande—the rainfall for that part of New Mexico—that valley would be uninhabitable. Likewise, New Mexico's limited share of San Juan River water—from the snow and rain on the headwaters of that river—is San Juan County's rainfall and is equally basic and vital to the development of the fabulously rich natural resources of that county, and so to the economy of the whole State of New Mexico.

In such a land it is only natural that questions should arise and conflicts develop over division and use of so vital a resource. In 1935 there was the first intimation of a demand for the diversion of a very large amount of water from the San Juan River to the populous and politically powerful Albuquerque area of the Rio Grande valley. So powerful was this demand that the legislation which would have made development in San Juan County possible, imposed conditions which would finally result, we believe, in the diversion of more than one-fourth of New Mexico's share of the waters of the Colorado River by way of the proposed San Juan-Chama project. Thinly disguised as the "initial stage," the legislation would authorize the expenditure of millions of dollars whose only purpose would be preparation for the ultimate diversion of 235,000 acre-feet of water originally sought for such purpose, the full amount of water available for use of New Mexico at the elevation of the purposed diversion.

Such a diversion was not only demanded as a right by the Rio Grande interests but the State of New Mexico, through approval of its Governor, its congressional delegation, its interstate streams commission, its State engineer and others, gave the project the appearance of acceptability.

Almost without exception the people of San Juan County think such a diversion of San Juan River water would be a crippling blow to the future development of northwestern New Mexico. Neither wishful thinking nor optimistic appraisals of a water supply will make up for the shortages bound to occur in a water program based on short-term averages, over appropriation, and the patient endurance of tolerable shortages. That same kind of thinking, followed on the Rio Grande, has brought about the situation from which those people seek relief through a diversion of water from the San Juan River, where the inevitable result will be exactly the same situation but with no possible source of supplemental supply.

We are in unanimous agreement that the most important and far-reaching benefits possible from use of San Juan River water will come through development of the Navajo irrigation project for the irrigation of 110,000 acres of tillable lands on the Navajo Reservation. The human values to accrue to this, the most numerous Indian tribe in the United States, are immeasurable. We urge its authorization for the full acreage promised, that the size of the water supply be determined on a basis of the needs of the people to be served and without regard to other or conflicting claims for San Juan River water. Studies of operation and water supply for the Navajo irrigation project prove conclusively that occasional ruinous shortages will be unavoidable should the San Juan-Chama diversion project be authorized and constructed. And, the entire objective of the Navajo irrigation project would be defeated.

We know that municipal water must be in firm supply. Industrial uses (and users) through whom San Juan countians hope to develop an industrial empire through conversion of immense stores of coal, gas, oil from deposits and other minerals, will not locate where they must depend on a water supply whose primary commitment is for the use of other municipalities and industries, however worthy.

Present uses, domestic, agricultural, municipal and industrial, must be provided for. New Mexico's share of evaporation losses from the river system itself, as well as that from the storage reservoirs necessary for the control and distribution of Colorado River water, cannot be avoided. In addition to these present requirements we must plan for which will, we hope, prove to have been the wisest use of our water supply.

#### THE RESOLUTION

"Whereas having reviewed carefully the foregoing, and it being our considered opinion that we have, in no case, been immoderate in our approach or treatment of the subjects covered, and believing implicitly in the cause for which we speak, San Juan County Farm and Livestock Bureau submits to Members of the U.S. Congress the following resolution: Be it

*Resolved*, That San Juan County Farm and Livestock Bureau, acting through its board of directors, express to Members of the U.S. Congress our strongest approval of the Navajo irrigation project. Be it further

*Resolved*, That we oppose any consideration by Congress of any legislation authorizing the San Juan-Chama diversion except on its merits as a single independent project. Further, that any diversion of San Juan River water now or ever to be considered should have the approval of the people of San Juan County, and be limited to water proven to be in surplus supply.

"Approved and adopted by San Juan County (N. Mex.) Farm and Livestock Bureau Board of Directors. (Original copy on file Aztec, N. Mex.)

"A. K. Brown, president; Wm. A. Utton, vice president; Wm. S. Allen, secretary-treasurer; Mrs. J. R. Brown, Jr., chairwoman; C. E. Calvert, director; L. P. McCoy, director; J. Ben Taylor, director; Lloyd Armstrong, director; Donald T. Martin, director; and Alex C. Hare, director.

#### "Endorsement

"The Executive Committee of the San Juan County Reclamation Association met in Farmington, N. Mex., Wednesday evening, January 11, 1961. There were present: Oliver Stock, Waterflow; J. H. Harper, Fruitland; Jack Gardner,

Cedar Hill; Dave Martin, Bloomfield; Valentin Archuleta, Blanco; and Cecil Dial, Aztec.

"Recent newspaper comment, together with the hasty introduction in the Senate of authorizing legislation, made the San Juan-Chama diversion project the chief topic for consideration. The long discussion disclosed entire agreement of those present in opposition to that project, on many counts.

"After long consideration and much discussion the members present concluded that a November 1960 resolution of the San Juan County Farm and Livestock Bureau, together with their supporting argument, expressed their own sentiments as well as the best interests of San Juan County and State of New Mexico quite fully.

"J. H. Harper moved, and Jack Gardner seconded the motion, (both at the expressed wish of those present) that the San Juan County Reclamation Association, acting through this meeting at which a quorum was present, approve that resolution and the supporting argument, and adopt the same as the action of the said association.

"DAVE MARTIN, *President.*

"CECIL DIAL, *Acting Secretary.*"

*Present, planned, and proposed consumptive uses of upper Colorado River water in New Mexico*

(Based on Mr. S. R. Reynolds' testimony at Senate hearings, 1959. See 1960 House hearing, p. 78)

	<i>1,000 acre-feet</i>
Present uses-----	92.3
Evaporation loss (Glen Canyon, Flaming Gorge and Curecanti)-----	73.3
Navajo Reservoir evaporation loss-----	39.0
Hammond project-----	6.8
Fruitland extension-----	2.1
Hogback extension-----	22.6
Utah Construction Co.-----	39.0
 Total-----	 <u>275.1</u>
Navajo project-----	252.3
San Juan-Chama (1st phase)-----	110.0
Animas-LaPlata project-----	33.4
Proposed projects-----	<u>395.7</u>
Total-----	<u>670.8</u>
Municipal and industrial uses (50 percent of 225,000 acre-feet)-----	112.5
Estimated additional evaporation loss from future reservoirs-----	34.7
Proposed future uses-----	<u>147.2</u>
Total based on Reynolds' testimony-----	<u>818.0</u>
2d phase of San Juan-Chama-----	125.0
San Juan River channel losses-----	20.0
Miscellaneous applications in good standing-----	17.8
Total-----	<u>162.8</u>
Total projected uses-----	<u>980.8</u>

WATER AVAILABLE

	<i>Acre-feet</i>
Based on 33 years (1924-56) upper basin share-----	6,200,000
11¼ percent of 6,200,000 acre-feet (less 50,000 to Arizona)-----	691,875
Based on 10 years (1948-58) New Mexico share-----	585,000

The CHAIRMAN. Now, are there other witnesses from either the Government agencies or the State of New Mexico or the State of Colorado with reference to S. 107?

If not, I recognize Senator Kuchel who so capably and vigorously represents the State of California.

Senator KUCHEL. I appreciate the usual courtesy of my friend the chairman.

Mr. Chairman, first of all, for the record I ask consent that the excellent statement by Raymond Matthew, the chief engineer of the Colorado River Board of California, raising serious questions with respect to the proposal before the committee, together with certain proposed amendments he makes, be incorporated entirely in the record.

The CHAIRMAN. Without objection, that will be done.

Mr. Matthew is well known to us.

(The statement of Raymond Matthew, chief engineer, Colorado River Board of California, and proposed amendments referred to follow:)

STATEMENT OF RAYMOND MATTHEW, CHIEF ENGINEER, COLORADO RIVER BOARD OF CALIFORNIA RE S. 107, 87TH CONGRESS, 1ST SESSION, NAVAJO INDIAN IRRIGATION PROJECT AND SAN JUAN-CHAMA PROJECT, INITIAL STAGE

WATER SUPPLY AND USE

Two questions of tremendous significance are inherent in the consideration of the proposed increase in use of Colorado River system water in New Mexico. One is the matter of New Mexico's legal entitlement to water under the terms of the Colorado River compact and the Upper Colorado River Basin compact and in the light of the special master's report and proposed decree in the *Arizona v. California* suit; the other involves the adequacy of the water supply physically available in the San Juan River and its tributaries.

*New Mexico's entitlement to water*

There is serious question whether the New Mexico entitlement to water under the Colorado River compact and the Upper Colorado River compact would amount to enough on the average to supply the estimated requirements of both the proposed Navajo Indian project and the initial stage of the San Juan-Chama project, in addition to the requirements of other New Mexico projects, existing and authorized, for use of Colorado River system water.

Under article III of the Upper Colorado River Basin compact, New Mexico is entitled to 11.25 percent of the total quantity of consumptive use per annum available each year to the upper basin, after deducting 50,000 acre-feet per annum for use in Arizona. Thus the adequacy of New Mexico's legal entitlement would appear to depend directly upon the total supply available for use in the upper basin.

In his report of December 5, 1960, in the U.S. Supreme Court suit, *Arizona v. California, et al.*, Special Master Simon H. Rifkind treats the Colorado River compact as a ceiling on appropriations, not a reservation of water in perpetuity. He says in effect that the annual quantity of water available in the future to the lower basin in the mainstream, a quantity which will be governed in large degree by the extent of upper basin development, is a matter to be determined by the Congress, not the Court.

Whether this is so or not, the Congress obviously must be fully informed as to the total available water supply and use, in order to weigh carefully the possible effects of any new authorizations upon the water supply that would remain available for existing and authorized projects. The water supply at Lee Ferry,

the dividing point between the upper and lower basins, would have averaged in a state of nature only 14 million acre-feet a year for the last 40 years. This is an approximately accurate measure of the total water supply available in the Colorado River Basin, excluding the supply on lower basin tributaries. This supply of 14 million acre-feet a year is all that can be safely depended upon in considering proposed developments and weighing their potential effects upon existing and other proposed uses of water.

Manifestly with that quantity of water the upper basin cannot achieve an annual consumptive use of water as great as the 7.5 million acre-feet a year apportioned it by the Colorado River compact and at the same time fulfill the obligation of the four upper division States under the compact to deliver not less than 75 million acre-feet to the lower basin at Lee Ferry in every period of 10 consecutive years, plus whatever obligation there may be to deliver additional quantities required by the Mexican Water Treaty. The quantity of water available for use in the upper basin will be substantially less than the compact apportionment, entirely aside from consideration of additional factors raised by the special master's report and proposed decree in the Arizona suit.

Existing and presently authorized projects in the upper basin will consume when fully developed, about 3.9 million acre-feet of water a year on the average. Projects now pending approval, including the Fryingpan, Savery-Pot Hook, Navajo, and San Juan-Chama, would bring the total to about 4.4 million acre-feet a year. But under the special master's proposed decree in the *Arizona* suit, and assuming a full natural supply at Lee Ferry of 14 million acre-feet a year average, the consumptive use of 3.9 million acre-feet a year in the upper basin would result in a 20 percent shortage in meeting the full requirements of existing California projects \* \* \* if Arizona and Nevada developed uses for all the main stream water proposed to be allocated to them. Use of as much as 4.4 million acre-feet a year in the upper basin would, under the same circumstances, reduce the supply for the Colorado River aqueduct of the Metropolitan Water District of Southern California to 20 percent or less of constructed capacity. This district has appropriate rights dating back to the midtwenties. It serves a population already exceeding 7 million and a most important industrial economy. Further substantial increase in upper basin use would, in addition to depriving the Colorado River aqueduct of all its water supply, cause very substantial curtailment of supply for the long-established California agricultural projects depending upon Colorado River water, which have appropriate rights and developments initiated over a half century ago, with works constructed to serve about a million acres of farmland and associated municipal and industrial water requirements.

New Mexico's entitlement of 11.25 percent would be 433,000 acre-feet a year if the total supply available for upper basin use were 3,900,000 acre-feet a year; 489,000 acre-feet if the total were 4,400,000. How far would such entitlements go toward meeting New Mexico's aspirations?

New Mexico State engineer S. E. Reynolds testified last year in hearings on the Navajo and San Juan-Chama project bills that committed uses from the Colorado River System by present and authorized projects in New Mexico will be 275,000 acre-feet a year, net depletion. (See table 1.) Mr. Reynolds also testified that new requirements for other developments proposed and contemplated would amount to 508,000 acre-feet a year net depletion, including 362,000 acre-feet for the Navajo irrigation project and the initial stages of the San Juan-Chama diversion project. The total annual requirement for New Mexico's existing, authorized, and contemplated projects amounts to 783,000 acre-feet. In order for the New Mexico entitlement to equal the 783,000 acre-feet a year total requirement indicated by Mr. Reynold's figures, the total available for upper basin use would have to be approximately 7 million acre-feet a year, which would substantially exceed the amount that the upper basin can use in view of the available water supply, without considering additional factors inherent in the special master's report and proposed decree.

TABLE 1

*New Mexico water requirements from upper Colorado River System per testimony of New Mexico State engineer, S. E. Reynolds*

AVERAGE ANNUAL STREAM DEPLETION AT SITES OF USE		<i>Thousand acre-feet</i>
Committed uses by present and authorized projects:		
Present uses.....	-----	92.3
Share of evaporation CRSP main-stem.....	-----	73.3
Hammond project.....	-----	6.8
Extension of Indian projects.....	-----	24.7
Navajo Reservoir losses.....	-----	39.0
Utah Construction Co.....	-----	39.0
Total.....	-----	275.1
Proposed:		
Navajo irrigation project.....	-----	252.3
San Juan-Chama, initial stage.....	-----	110.0
Total.....	-----	362.3
Other:		
Municipal and industrial.....	-----	112.5
Animas-La Plata project.....	-----	33.4
Total.....	-----	145.0
Total.....	-----	508.2
Total.....	-----	783.3

Source: House subcommittee hearings on H.R. 2352, H.R. 2494 and S. 72, Navajo Indian irrigation and San Juan-Chama projects, 86th Cong., 2d sess.

For committed uses by existing and authorized projects, plus only the requirements for the Navajo irrigation and initial stage San Juan-Chama projects, New Mexico, would be depleting the flow of San Juan River by 637,000 acre-feet a year. This amount of use would be 204,000 acre-feet a year in excess of New Mexico's entitlement if the total average annual supply available for upper basin use were 3,900,000 acre-feet, and 148,000 acre-feet in excess if the total were 4,400,000 acre-feet.

It appears likely that the net use of water on the Navajo Indian project would be 75,000 to 100,000 acre-feet a year more than estimated in the planning report, and consequently the excess of New Mexico uses over her entitlement would be that much greater. Some 50,000 acres of the project service area lie 20 to 40 miles from the San Juan River and it is highly questionable if there would be much if any return flow therefrom to the river.

As previously indicated, a total upper basin use of even as much as 4,400,000 acre-feet a year would reduce the water supply available for use in California under the proposed decree in the Arizona suit to only a fraction of the requirements of projects long constructed and in operation, with water rights established by appropriation under State law and by contracts with the Secretary of the Interior under the Boulder Canyon Project Act.

The Rifkind opinion puts squarely up to the Congress the question of authorization of new projects which upon analysis in the light of the limited water supply available would be found to impair the supply needed by existing and previously authorized projects. This situation emphasizes the need for intensive consideration of all factors involved, including the total water supply available, the total existing and proposed uses, the several States' entitlements under the compacts, and the significance and impact of the report and proposed decree by Judge Rifkind in the Arizona suit, before launching any additional developments.

#### *Adequacy of project water supply*

Aside from the problem of New Mexico's entitlement is the question whether the long-time average flow physically available in the San Juan River is sufficient, with the amount of storage regulation to be provided by the Navajo Reservoir, to supply the water requirements of existing and authorized developments in the San Juan Basin, plus the additional requirements of the Navajo Indian project,

other contemplated in-basin uses including municipal and industrial, and the initial stage of the San Juan-Chama diversion project. The water supply and reservoir operation studies for Navajo Reservoir in the Interior Department report were carried only through the period 1928 to 1951, inclusive. Since 1951 there has occurred the most severe 4-year period of low flow of record on the San Juan River. In the period 1953-56, inclusive, the estimated average flow was only about half the estimated average for the period 1928-51; and for the 14 years 1943-56, inclusive, it was only about 75 percent of the average for the long-time period.

Inspection of the operation studies in the report, and supplemental data made available by the Bureau, indicates that the water supply in the San Juan River Basin even with the regulation that could be accomplished at the Navajo Reservoir would be insufficient to furnish the existing and contemplated requirements. Extension of the operation studies through the year 1959, using annual streamflow data, shows that the reservoir would have been empty (i.e. drawn down to dead storage level) in 4 of the 11 years between 1945 and 1956, including 3 consecutive years. Releases in 5 of the 10 years 1947-56 would have been substantially less than the assumed release requirements of 756,000 acre-feet a year. The shortage would have been 15 percent of requirements in 1947, 36 percent in 1951, 36 percent in 1954, 42 percent in 1955, and 45 percent in 1956. Total shortage in the 3 years 1954-56 would have been 900,000 acre-feet. Furthermore, no allowance was made in the study for the diversion of 55,000 acre-feet a year estimated to be required under the lease contract between the Navajo Tribe and the Utah Construction Co. for the mining of coal and generation of steam-electric power (House hearings, S. 72, 86th Cong., p. 124).

The study assumes upstream depletions reflecting the requirements of the initial stage San Juan-Chama project, the proposed Weminuche Pass diversion and a contemplated increase in depletion by the Pine River project. For the 29-year period the computed average annual regulated release is only 711,000 acre-feet, as compared to assumed average annual downstream release requirements of 756,000 acre-feet. Average annual spill is 78,000 acre-feet.

There have recently become available up-to-date operation studies of the Navajo Reservoir by the Bureau of Reclamation, which incorporate data for the flow of San Juan River through calendar year 1959. ("Financial and Power Rate Analysis, Colorado River Storage Project and Participating Projects," September 1960, USBR region 4, tables 4 and 6.) One of the studies assumes upstream depletion by the initial stage San Juan-Chama project and an additional unidentified depletion amounting to about 24,000 acre-feet a year. The assumed dependable yield is substantially decreased, and the computed spill increased, as compared with the earlier study in the Navajo irrigation project planning report above referred to, apparently in order to eliminate the severe shortages indicated by the earlier study.

The more recent study covers the base period 1906-59 inclusive, but results are summarized separately for the 29-year period, 1931-59, which covers all the critical periods of record as regards carryover of water in storage. Sustained annual controlled release, with no shortages, is estimated at 600,000 acre-feet, and average annual spill over the 29-year period is 225,000 acre-feet.

Using the results of this recent Bureau study an analysis (table 2) has been prepared, patterned after calculations on page 322 of House Document 424, 86th Congress. This analysis shows conclusively that the water supply of the San Juan River on the basis of the historical record and with the storage regulation to be provided by Navajo Reservoir, could not furnish an average dependable yield sufficient to meet all the existing and proposed demands that will be placed upon it according to official estimates of the Interior Department and New Mexico. The average annual historical flow of about 1 million acre-feet during the critical period 1931-59, reduced by contemplated upstream depletions, reservoir evaporation and uncontrolled spill, would yield at Navajo Reservoir only about 553,000 acre-feet of dependable supply, to take care of existing, committed and projected downstream demands, estimated at 841,000 acre-feet a year. The indicated deficit is 288,000 acre-feet a year average. There is no showing in the report or elsewhere that any significant amount of this deficit could be met by the use of return flow.

The contracting provisions of section 7 of S. 107 anticipate shortages in water supply which would necessitate arrangements for sharing of shortages and limiting contract commitments. It is submitted, however, that the occurrence and amount of water shortages indicated by the water supply studies are so

severe as to present a most unhealthy prospect for successful operation of the proposed projects. The indicated inadequacy of the water supply casts grave doubt on the engineering feasibility of the proposed undertakings.

TABLE 2.—*Navajo Reservoir Water Budget 1931-59 base period*

	<i>Acre-feet per year, average</i>
1. Recorded runoff San Juan River near Blanco-----	982,000
2. Estimated present depletion Blanco to Navajo Dam-----	30,000
3. Estimated historic flow at Navajo Dam-----	1,012,000
4. Potential upstream depletion:	
a. San Juan-Chama project, initial-----	110,000
b. Ultimate Pine River Project-----	65,000
c. Weminuche Pass diversion-----	21,000
	196,000
	196,000
5. Estimated depleted inflow to Navajo Reservoir-----	816,000
6. Estimated reservoir evaporation-----	38,000
7. Estimated spill-----	225,000
	263,000
	263,000
8. Estimated supply available for release for downstream requirements-----	553,000
9. Estimated downstream requirements:	
a. Presently irrigated land plus Hammond project and 800 acres miscellaneous-----	53,000
b. Utah Construction Co. contract-----	55,000
c. Navajo Indian project-----	508,000
d. Municipal and industrial-----	225,000
	841,000
10. Deficiency in supply-----	228,000

References by line items:

1. USGS water supply papers
2. H. Doc. 424, 86th Cong., 2d sess., p. 322
- 4a. H. Doc. 424, p. V
- 4b, c. H. Doc. 424, pp. 322, 334
- 6, 7. USBR "Financial and Power Rate Analysis, Colorado River Storage Project and Participating Projects," September 1960, table 6
- 9a. H. Doc. 424, p. 322
- 9b, d. House subcommittee hearings, 86th Cong., 2d sess., on H.R. 2352, H.R. 2494, and S. 72, pp. 72, 78, 124
- 9c. H. Doc. 424, p. 275

ECONOMIC AND FINANCIAL ASPECTS

Although the chief concern of the Colorado River Board in the proposed projects lies in the aspects of water supply and use, an analysis has also been made of information in the planning reports on the financial and economic aspects. The results of this analysis have been previously presented to the committee and will not be repeated herein. Details are contained in the official views and recommendations of California and summarized in the statement on behalf of the Colorado River Board, both printed in the House committee hearings of May 1960 on H.R. 2352, H.R. 2494, and S. 72 (pp. 187-199, inclusive, and 205).

Briefly, the analysis shows that the estimated costs of the proposed irrigation developments in both projects are several times greater than the value of improved land with full water supply; that the benefit-cost ratios, realistically computed, are less than unity; that the required Federal subsidies alone would greatly exceed the estimated direct irrigation benefits; and that serious question exists as to whether New Mexico's share of net power revenues of the Colorado River storage project would be available to repay within the required time the portions of the irrigation cost of the San Juan-Chama project that could not be repaid by the project users.

It is concluded in the analyses that neither the Navajo project nor the San Juan-Chama project as proposed in the report is economically justified and

that the San Juan-Chama project cannot be considered financially feasible. (Navajo Indian irrigation costs would be nonreimbursable.)

The analysis previously presented, and epitomized above, with respect to the financial and economic aspects of the proposed projects is intended to provide information which may assist the committee and the Congress in the consideration of these factors. It is recognized that the final decision in regard to the authorization of proposed reclamation projects, from the standpoint of financial feasibility and economic justification as well as all other factors must be made by the Congress with the approval of the executive department.

#### PROPOSED AMENDMENTS TO S. 107

The Colorado River Board desires to propose certain amendments directed toward safeguarding the rights and interests of California in and to the waters of the Colorado River system. It should be noted that these amendments would not constitute a cure for the problems of water supply and entitlements cited herein. However, it is deemed essential that if further consideration is to be given to the pending bill, these amendments be incorporated therein. Amendments, with explanatory notes, follow.

#### AMENDMENTS PROPOSED TO S. 107, H.R. 2506 AND H.R. 2552, TO AUTHORIZE THE NAVAJO INDIAN IRRIGATION PROJECT AND THE INITIAL STAGE OF THE SAN JUAN-CHAMA PROJECT AS PARTICIPATING PROJECTS OF THE COLORADO RIVER STORAGE PROJECT

The attached amendments are proposed to S. 107, H.R. 2506 and H.R. 2552. The amendments may be explained as follows:

##### 1. AMENDMENT TO SECTION 6 RE AUTHORIZATION OF THE SAN JUAN-CHAMA PROJECT

This amendment would delete the proposed authorization to construct the tunnel and conduit works of the initial stage of the San Juan-Chama project with sufficient capacity for an average annual diversion of 235,000 acre-feet. Such authorization would conflict directly with the proviso that "nothing contained in this act shall be construed as committing the Congress \* \* \* to future authorization of any additional stage. \* \* \*" Studies indicate that there is serious question whether the water supply available to New Mexico will ever be sufficient to permit expansion of the initial phase of the San Juan-Chama project, if other commitments in New Mexico including the Navajo Indian irrigation project are met.

##### 2. PROPOSED NEW SECTION SUBJECTING THE PROJECTS TO THE LAW OF THE RIVER

This proposal is in four subsections. Subsections (a), (b), and (d) are in the main modeled on four amendments made at the instance of upper basin interests to the bill which authorized the "second barrel" of the San Diego aqueduct (act of Oct. 11, 1951, Public Law 171, 82d cong.), with necessary modifications. These subject the projects to the compacts, statutes, and treaties which comprise part of the so-called law of the river. In addition, subsection (d) also includes a declaration that Congress, by enacting this bill, does not interpret these documents. This is to guard against interpretations in the project report (incorporated by reference in section 1 of the bill) which are not agreed to by all of the States of the Colorado River Basin. Subsection (c) of our proposal would prohibit the use of any Colorado River system waters outside of the State of New Mexico. Counterparts to these subsections were adopted by the House Committee at our suggestion in connection with H.R. 594, the Fryngpan-Arkansas bill in the 85th Congress, and now appear in the Fryngpan bills introduced in the 87th Congress with the approval of the State of Colorado (S. 284; H.R. 2206-2209 inclusive).

##### 3. PROPOSED NEW SECTION RE QUALITY OF WATER STUDIES

The question of the quality of water remaining for use in the lower basin is accentuated when projects involving transmountain diversions are proposed. A study of the quality question was authorized 20 years ago in the Boulder Canyon Project Adjustment Act (act of July 19, 1940, 54 Stat. 774) and 5 years ago in the Colorado River Storage Project Act (act of Apr. 11, 1956, 70 Stat. 105).

Both authorizations were in general terms, however, and Interior has yet to produce any study on this problem. It is believed that a new statutory provision is necessary to indicate what the study should embrace and to indicate that a report is to be made at the earliest possible date. It is believed that New Mexico has no objection to this amendment (hearings on S. 3648, p. 185, 85th Cong., 2d sess. (1958)). This amendment now appears in S. 284 section 6 as introduced in the 87th Congress, with the approval of the State of Colorado, to authorize the Fryingpan-Arkansas project.

#### 4. PROPOSED NEW SECTION RE LITIGATION AND STATE WATER RIGHTS

This was offered in connection with the Fryingpan bill in the 85th Congress and now appears in almost identical language in S. 284 section (5)(e) as introduced in the 87th Congress with the approval of the State of Colorado.

#### 5. PROPOSED NEW SECTION RE LIMITATION ON TRANSMOUNTAIN DIVERSIONS

This proposal is patterned on section 13(c) and 13(d) of the Boulder Canyon Project Act. It would require that all future patents, grants, contracts, concessions, leases, permits, licenses, right-of-way, or other privileges from the United States necessary or convenient for the use of Colorado River or its tributaries flowing within New Mexico shall not be utilized to effect a total diversion out of the basin of more than 25 percent of New Mexico's apportionment of beneficial consumptive use under article III(a) of the Upper Colorado River Basin compact. The constitutional power of Congress to so condition the use of Federal property and privileges seems well established. See *Ivanhoe Irrigation District v. McCracken*, 357 U.S. 275, 294-95 (1958); *Arizona v. California*, 283 U.S. 423, 461-62 (1931).

The Arizona House passed a resolution in April 1955 which, among other things, opposed any project to export additional water out of the basin. (Hearings on H.R. 412, p. 346, 84th Cong., 1st sess., 1955.)

The estimates of possible transmountain diversions from the upper basin at the time of the Colorado River compact were on the order of 350,000 to 500,000 acre-feet per year maximum. We understand the upper limit is exceeded now in Colorado alone. The projects inventories in the Bureau's report on the Colorado River in 1947 (H. Doc. 419, 80th Cong., 1st sess.) aggregate on the order of about 3 million acre-feet of transmountain diversions. As Senator Anderson has indicated, this problem should be resolved (hearings on S. 300, p. 223, 84th Cong., 1st sess., 1955). An effective limitation on the water which may be taken out of the natural basin of the upper river by transmountain diversion should be of real assistance in the quality of water problem.

#### 6. PROPOSED NEW SECTION RE ARTICLE III(D) DELIVERY OBLIGATIONS

This proposal is identical to an amendment offered by Senator Hayden of Arizona, accepted by Senator Anderson of New Mexico and incorporated as section 10 of the Navajo and San Juan-Chama bill S. 72 passed by the Senate on May 19, 1959. It is considered reasonable and proper that such assurance be given for the protection of the States of the lower division.

#### 7. PROPOSED NEW SECTION RE ARTICLE III(C) MEXICAN TREATY BURDEN

Views differ as to the extent of the obligation of the upper division States to deliver water for Mexico under the terms of article III(c) of the compact. It appears possible that some conflict of interest may arise as between the need for water in New Mexico and the State's obligation to supply water for delivery at Lee Ferry under article III(c) as well as article III(d) of the compact. This proposed amendment is amply justified, to give reasonable assurance and protection to the States of the lower division.

*Amendment No. 1.*—Amendment to section 6 re authorization of the San Juan-Chama project (keyed to page and line in S. 107 and H.R. 2552). Delete from section 6(g) the passage beginning with "The Secretary of the Interior \* \* \*" and continuing through the word "That" on page 10, line 6.

*Amendment No. 2.*—Proposed new section subjecting projects to the law of the river:

"Sec. ——— (a). The use of water, including that diverted from the Colorado River system to the Rio Grande Basin, through works constructed under author-

ity of this Act, shall be subject to and controlled by the Colorado River Compact, the Upper Colorado River Basin Compact, the Boulder Canyon Project Act, the Boulder Canyon Project Adjustment Act, the Colorado River Storage Project Act, and the Mexican Water Treaty (Treaty Series 994), and shall be included within and shall in no way increase the total quantity of water to the use of which the State of New Mexico is entitled and limited under said compacts, statutes, and treaty, and every contract entered into under this Act for the storage, use, and delivery of such water shall so recite.

"(b). All works constructed under authority of this Act, and all officers, employees, permittees, licensees and contractees of the United States and of the State of New Mexico acting pursuant thereto and all users and appropriators of water of the Colorado River system diverted or delivered through the works constructed under authority of this Act and any enlargements or additions thereto shall observe and be subject to said compacts, statutes, and treaty, as hereinbefore provided, in the diversion, delivery, and use of water of the Colorado River system, and such condition and covenant shall attach as a matter of law whether or not set out or referred to in the instrument evidencing such permit, license, or contract and shall be deemed to be for the benefit of and be available to the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming and the users of water therein or thereunder by way of suit, defense, or otherwise in any litigation respecting the waters of the Colorado River system.

"(c) None of the waters of the Colorado River system shall be exported from the natural basin of that system by means of works constructed under authority of this Act, or extensions and enlargements of such works, to the Rio Grande River Basin for consumptive use outside of the State of New Mexico, and no such waters shall be made available for consumptive use in any State not a party to the Colorado River Compact by exchange or substitution; nor shall the obligations of the State of New Mexico under the provisions of the Rio Grande River Compact (53 Stat. 785) be altered by any operations of any project for transmountain diversion of Colorado River system water into the Rio Grande Basin.

"(d) No right or claim of right to the use of the waters of the Colorado River system shall be aided or prejudiced by this Act, and Congress does not, by its enactment, construe or interpret any provision of the Colorado River Compact, the Upper Colorado River Basin Compact, the Boulder Canyon Project Act, the Boulder Canyon Project Adjustment Act, the Colorado River Storage Project Act, or the Mexican Water Treaty or subject the United States to, or approve or disapprove any interpretation of, said compacts, statutes, or treaty, anything in this Act to the contrary notwithstanding."

*Amendment No. 3.*—Proposed new section re quality of water studies:

"Sec. ———. The Secretary of the Interior is directed to continue his studies of the quality of water of the Colorado River system, to appraise its suitability for municipal, domestic, and industrial use and for irrigation in the various areas in the United States in which it is used or proposed to be used, to estimate the effect of additional developments involving its storage and use (whether heretofore authorized or contemplated for authorization) on the remaining water available for use in the United States, to study all possible means of improving the quality of such water and of alleviating the ill effects thereof, and to report the results of his studies and estimates to the 87th Congress and every two years thereafter."

*Amendment No. 4.*—Proposed new section re litigation and State water rights:

"Sec. ———. In the construction, operation and maintenance of all facilities authorized by Federal law and under the jurisdiction and supervision of the Secretary of the Interior for the utilization of the waters of the Colorado River system, including but not limited to all works authorized by this Act, the Secretary of the Interior is directed to comply with the applicable provisions of the Colorado River Compact, the Upper Colorado River Basin Compact, the Boulder Canyon Project Act, the Boulder Canyon Project Adjustment Act, the Colorado River Storage Project Act (and any contract lawfully entered into by the United States under any of said Acts or of this Act), and the treaty with the United Mexican States, and to comply with the laws of the States in which such waters are used relating to the control, appropriation, use, and distribution of water therein. In the event of the failure of the Secretary of the Interior to so comply, any State of the Colorado River Basin may maintain an action in the Supreme Court of the United States to enforce the provisions of this section and consent is

given to the joinder of the United States as a party in such suit or suits, as a defendant or otherwise, and any person or entity whose rights may be affected, impaired, or infringed upon by reason, or as a result, of such noncompliance may maintain an action, suit, or proceeding in any court of competent jurisdiction, seeking appropriate relief, and consent is hereby given to the joinder of the United States, the Secretary of the Interior, and his subordinate officials, employees, and agents as a party or parties to such action, suit, or proceeding, as a defendant or otherwise."

*Amendment No. 5.*—Proposed new section re limitation on transmountain diversions.

"SEC. ———. (a) All patents, grants, contracts, concessions, leases, permits, licenses, rights-of-way, or other privileges from the United States or under its authority, hereafter executed, necessary or convenient for the use of the waters of the Colorado River or its tributaries flowing within New Mexico, shall be upon the express condition and with the express covenant that such privilege shall not be utilized to effect either directly or indirectly, the diversion of such waters out of the natural drainage basin of the Colorado River in New Mexico beyond an annual quantity which, together with all other existing or authorized diversions out of that basin in New Mexico, equals 25 per centum of the apportionment of beneficial consumptive use of Colorado River system water to which the State of New Mexico may be entitled pursuant to article III (a) of the Upper Colorado River Basin compact.

"(b) The conditions and covenants referred to herein shall be deemed to run with the land and the right, interest, or privilege therein and water right, and shall attach as a matter of law, whether set out or referred to in the instrument evidencing any such patent, grant, contract, concession, lease, permit, license, right-of-way, or other privilege from the United States or under its authority, or not, and shall be deemed to be for the benefit of and be available to the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, and the users of water therein or thereunder, by way of suit, defense, or otherwise, in any litigation respecting the waters of the Colorado River system."

*Amendment No. 6.*—Proposed new section re obligation of upper division States to meet article III (d) delivery obligation at Lee Ferry.

SEC. ———. The diversion of water for either or both of the projects authorized in this Act shall in no way impair or diminish the obligation of the 'States of the upper division' as provided in article III (d) of the Colorado River compact 'not (to) cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre-feet for any period of ten consecutive years reckoned in continuing progressive series beginning with the first day of October next succeeding the ratification of this compact.'

*Amendment No. 7.*—Proposed new section re obligation of upper division States to meet article III (c) Mexican Treaty delivery obligations.

"SEC. ———. The diversion of water for either or both of the projects authorized in this Act shall in no way impair or diminish the obligation of the 'States of the upper division' to meet their share of the Mexican Treaty burden as provided in article III (c) of the Colorado River compact."

Senator KUCHEL. Now, Mr. Chairman, the State from which I come is involved in a lawsuit with the people of Arizona respecting the rights of my State and Arizona to share the waters of the Colorado River under the Colorado River compact. That lawsuit has been before a hearing officer, and his report to the Supreme Court has been made.

Mr. Simon H. Rifkind, the special master appointed by the Supreme Court to hold hearings in the matter, makes some findings which in my judgment raise very serious questions to the members of this committee and the Congress with respect not alone to the San Juan-Chama proposal, so vigorously advocated by my friend the chairman, but indeed to every single proposed construction project any place in the Colorado River Basin.

And I want to use this record, if I may, to indicate one of the conclusions which the master makes, because I believe he is wrong. I

believe he is woefully wrong. And I believe every member of this committee will agree that he is wrong.

In the December 5, 1960, report of the special master, reading on page 111, and I quote, he says:

A second and controlling assumption made in the Erickson and Stetson studies on which California relies is that the upper basin will deplete the virgin flow at Lee Ferry—

that is the cutoff place, I observe parenthetically, between the upper and the lower basin—

by between 6,500,000 and 6,800,000 acre-feet per annum. Yet there is nothing to indicate that the upper basin depletions, which have never exceeded 2,200,000 acre-feet per annum measured at Lee Ferry, will expand to anywhere near 6,500,000 acre-feet. Again, the witnesses assumed this amount of depletion on instruction from counsel; they did not express the opinion that it would occur. In sharp conflict with this assumption is the estimate expressed in the report of the Senate committee which studied the Colorado River storage project and potential reservoir construction in the upper basin. That report estimates that future upper basin consumptive use—

Listen to this, my colleagues, from the upper basin—

will not exceed 4,800,000 acre-feet per annum (depletion of the flow at Lee Ferry would be less), even if the extensive storage capacity envisaged but not as yet authorized for the upper basin were eventually constructed.

Now, as a Senator from one State in the Union, involved in a legal controversy, I would hope that the Supreme Court might finally determine how much water is apportioned to the upper basin and to the lower basin.

Were a decision of the Court to be silent on that point, then you would have a difficult and impossible situation confronting the Congress, where, in a dog-eat-dog fashion, States would be grabbing for what they could obtain.

Now, I come, of course, from the lower basin. And I respect the desires of the people in the upper basin to utilize that which the compact gives them.

But when the special master indicates as one basis for his decision that the upper basin States will voluntarily, apparently, put a ceiling on the amount of water which they intend to use, by projects, in the future, I think he makes a finding that is completely erroneous, because the Colorado River legislation itself provides in part—section 3 of Public Law 485—

It is not the intention of Congress, in authorizing only those projects designated in section 1 of this Act, and in authorizing priority in planning only those additional projects designated in section 2 of this Act, to limit, restrict, or otherwise interfere with such comprehensive development as will provide for the consumptive use by States of the Upper Colorado River Basin of waters, the use of which is apportioned to the Upper Colorado River Basin by the Colorado River Compact and to each State thereof by the Upper Colorado River Basin Compact, nor to preclude consideration and authorization by the Congress of additional projects under the allocations in the compacts as additional needs are indicated. It is the intention of Congress that no dam or reservoir constructed under the authorization of this Act shall be within any national park or monument.

That is what the Congress has decided. And I respect what the Congress decided. And I remember the vigor with which the chairman and those from the Upper Basin States wanted to write this in.

So that you did not want Congress to limit the development of the upper basin to that which this present law provides.

And here you have the good people from the State of New Mexico honorably coming before this committee and asking for the approval of an additional project, one which I think I recall was mentioned in the statute. There are going to be others in the future. My friend from Colorado will have legislation in this session and in future sessions of the Congress, as the needs of his people in their belief begin to occur.

So I wanted to raise a question that bears upon this bill and on every other piece of legislation providing for the construction of projects in the Colorado River, as a basis of asking my colleagues to agree with me that the master is wrong, or let me say that it is wrong to assert that there is going to be a self-imposed ceiling on the development of the upper Colorado River by the able Senators and Representatives who come from those States.

The CHAIRMAN. May I say to the Senator from California that I appreciate that tremendously, and I had hoped that in the report on this bill, if the bill is reported, we would deal with that very subject. I was surprised to find this language in the master's report, which I had with me, and on which I had previously dictated a memorandum, I guess addressed to myself, of March the 7th.

But the report of the master does say that this Senate committee report, which I filed, and on which I did a great deal of writing, estimates that future upper basin consumption will not exceed 4,800,000 acre-feet.

Now, he gets to that by reading language in the report, which is Report No. 128, Calendar 131, of the 84th Congress, 1st session. And my report at the bottom of page 1 says:

Finally, the bill recognizes that the works authorized constitute only an initial phase of a comprehensive development of the water resources apportioned to the upper basin, and that the specific authorizations in this bill are not intended to limit or preclude the consideration and authorization by Congress of other projects for the use of waters apportioned under the compact as additional needs are indicated.

The report made it very clear that the things emphasized in the first bill were just initial phases, and particularly is that true of the State of Colorado, because, as the Senator from Colorado has correctly pointed out, a large portion of the water, I think more than 58 percent of the water in the river, comes from the State of Colorado.

And we recognized that Colorado had many projects which it could not get to for many years to come. And therefore we were trying to say that the authorization of certain projects initially in that bill did not bar the development of additional projects at a later date.

Now, the act became Public Law 485 of the 84th Congress, and in section 3 it has the language which the Senator from California has just pointed out.

But I read it again:

It is not the intention of Congress, in authorizing only those projects designated in section 1 of this Act and in authorizing priority in planning only those additional projects designated in section 2 of this Act, to limit, restrict, or otherwise interfere with such comprehensive development \* \* \*.

Now, the master would certainly restrict, limit, and interfere with development, if his language were to be accepted. And therefore I was a little shocked to find it.

The report on page 4 said, and I am quoting from the report:

When all project units and participating projects named in that bill are constructed, the aggregate of all consumptive uses in the upper basin would not exceed 4.8 million acre-feet per annum. This would leave an unused apportionment of 2.7 million acre-feet of the 7½ million acre-feet apportioned to the upper basin to meet any contingencies arising out of litigation over varying interpretations of the compact. In these circumstances, the continuity of the water supply for the lower basin would be assured.

In other words, we apportioned enough projects to cover about 4,800,000 acre-feet, if they were all used. We left plenty of reserve, 2,700,000 more. If you had additional projects to cover 2 million of those acre-feet you still had a 700,000-acre-foot cushion to protect the interests of the lower basin.

I am glad the Senator from California raises it. I had a notation here, as I said, in this memorandum, as follows:

This section was put in merely to show that we were not jeopardizing the rights of the lower basin by any of the projects which were authorized by S. 500 in the upper basin. We tried to point out that California could safely pass this bill, and even if the flow of the river got to 14 million acre-feet there was still plenty of water for everybody. How Mr. Rifkind can take this statement to be some sort of limitation of the people in the upper basin to future rights is more than I can understand.

I planned to have a list of future potential developments. I did not do it. But section 13 of the act refers to net power revenues available for assisting in the payout of costs of participating projects authorized in the States of Colorado, New Mexico, Utah, and Wyoming, and we tried to say that the power revenues from Glen Canyon Dam and the other dams were the things that were going to continue to make possible the development of the water in the upper basin.

• Senator KUCHEL. I think you did say it.

The CHAIRMAN. I am very happy that the Senator from California raised this question. I had planned to raise it, myself. I want to assure the people that this was not a rehearsed act between the two of us.

Ordinarily, the Senator from California and myself find ourselves on a little different ground when we discuss the water uses of the Colorado River; but I am happy that he has picked this up, because this is a very important circumstance to the States of Colorado, New Mexico, Wyoming, and Utah.

And certainly I think we should do everything possible to see to it that this language of the special master is, by some means, corrected before there is any final decree.

Senator KUCHEL. I thank the chairman; because I would be laughed out of this Congress if I argued before this committee that this bill or any other bill providing for development in the Upper Colorado River Basin ought not to be approved by Congress because the master said that there was some kind of a ceiling that had been entered into which you could not break.

The CHAIRMAN. A self-imposed limitation.

Senator KUCHEL. A self-imposed limitation. What kind of an argument would that be? I would hope, with the utmost sincerity of

which I am capable, that the decision of the judicial branch of our Government would be a decision on the apportionment which the compact decides; so that each would know generally, or each basin would know, precisely what the terms of the compact meant by a judicial decision.

Otherwise, gentlemen, there would be a terrible dog-eat-dog development that would do no State in the Colorado River Basin any good at all. And I simply wanted to raise that, because the report of the master does not face up to the issues that the good people of Arizona and the good people of California both want to have decided across the street in the courthouse which was built for that purpose.

Senator CARROLL. Will the Senator yield?

How does the master's finding go to the merits of the controversy between Arizona and California? Why does it affect the upper basin States?

Senator KUCHEL. In effect he says there is no basis for the claims that California makes under the compact, because there is going to be this ceiling on the developments which Congress will authorize, of additional projects, in the upper basin.

And my point is, and everybody in this committee will agree, that there is no such commitment by Congress, when it passed the Upper Colorado River storage project or in any subsequent Congress, to tie its hands behind its back and say that the Members of the Senate or the House of Representatives from the affected States cannot come in here and ask for congressional authorization of additional projects as they believe in their wisdom ought to be given congressional approval.

Senator CARROLL. To put the question differently, if there is no validity to the special master's finding—which I think the able Senator from California so ably pointed out—insofar as the upper basin is concerned, and what we expect to do in the future, how would that affect his basic decision regarding Arizona and California?

Senator KUCHEL. It would not affect it. If the report of the master were to stand—and I want to try to be an ethical Senator when I say this—if the report of the master were to stand, it would be tantamount to throwing this problem back to the Congress, together with a presumed self-imposed restriction on all future Congresses not to even consider legislation for additional projects above the figure of 4,800,000 acre-feet, which he asserts.

The CHAIRMAN. And I think, also—the Senator from California is a lawyer, but it struck me, as a nonlawyer, that this might open up the whole question of the Colorado River compact to an argument again as to whether Arizona might have certain rights to water and California might have certain rights to water, and if they got in a controversy, they can make it up by taking the water from the upper basin States, this 2,700,000, which certainly was never intended. And I am glad it is raised, now, because there are those of us who participated in this legislation.

I attended some of the meetings of the Colorado River compact group in Santa Fe in 1921 and 1922, having a little newspaper interest in what was taking place. And I am surprised now to find how few people there are who know what happened out there, and know what was meant by it. There was this question of the decision of water on the Gila River, that is a very good example.

It was well understood by everybody in the meeting in Santa Fe, over which President Hoover so ably presided. But there are very few people who remember it now. And in a short time there will be few people who remember what we meant when we divided the waters between the upper and the lower basin, and then when we decided to divide the waters in the upper basin.

All of us who participated know what was meant. We intended to divide all of that 7½ million acre-feet, eventually, if it was there. But we would authorize certain projects if they were ready to go, including these great dams that are going to be the breadwinners of the whole system.

The Glen Canyon Dam must earn the money to build projects in Colorado and Utah and Wyoming and New Mexico. As those revenues come in, we hope to see these additional projects authorized by the Congress.

It would have been extremely unfair for Senate bill 500, which had my name on it, to have decided in advance what projects could and could not be built in the State of Colorado because Colorado had not yet decided how it wanted to use its water, and it had the right to do that, and not the Congress of the United States.

Senator KUCHEL. Actually, it would be unconstitutional for one Congress to say that no Congress can do anything more than what is in this bill.

The CHAIRMAN. I think it would have been. But if it was not unconstitutional, it would be certainly absurd when the language of the report pointed out that this was the first jump, and when moneys became available there would be other jumps, and also when legislation was passed there would be additional amounts of water.

Tomorrow there might be a project in Colorado that was never even mentioned in Senate bill 500, which would be a good project, and which ought to be built. And it ought not to be held back on the assumption that there was some 4,800,000 acre-foot limitation or ceiling on that water—which there is not and never will be.

Senator CARROLL. What is the status of that litigation today?

Senator KUCHEL. Well, the report has been completed by the special master. In the next term of the court, oral argument by the litigants will be completed. And then, of course, in due course the Supreme Court will render its decision.

The only point I make here today, Senator: I think the special master's report is wrong. I think it decides nothing. It fails to determine that which the parties to the lawsuit intended when the lawsuit was brought. And it is no answer at all to say, "This ought to go back to the Congress," where there is an implied limitation on what the people in the Upper Colorado River States will sponsor and seek legislation on to build additional projects in that area.

In that connection, may I, Mr. Chairman, insert into this record a few paragraph excerpts from the report of the special master and a rather short memorandum by the special counsel for the attorney general of California on it?

The CHAIRMAN. I think that is fine.

Without objection, it may be done.

(The exhibits referred to follow:)

## EXCERPTS FROM REPORT OF SPECIAL MASTER SIMON H. RIFKIND, BEFORE THE SUPREME COURT IN ARIZONA V. CALIFORNIA, ET AL.

"A second and controlling assumption made in the Erickson and Stetson studies on which California relies is that the upper basin will deplete the virgin flow at Lee Ferry by between 6,500,000 and 6,800,000 acre-feet per annum. Yet there is nothing to indicate that the upper basin depletions, which have never exceeded 2,200,000 acre-feet per annum measured at Lee Ferry, will expand to anywhere near 6,500,000 acre-feet. Again, the witnesses assumed this amount of depletion on instruction from counsel; they did not express the opinion that it would occur. In sharp conflict with this assumption is the estimate expressed in the report of the Senate committee which studied the Colorado River storage project and potential reservoir construction in the upper basin. That report estimates that future upper basin consumptive use will not exceed 4,800,000 acre-feet per annum (depletion of the flow at Lee Ferry would be less), even if the extensive storage capacity envisaged but not as yet authorized for the upper basin were eventually constructed" (pp. 111-112).

Moreover, if ever the equities between California's existing uses and new uses in the Colorado River Basin have to be resolved, it will be for Congress to resolve them. No new projects, whether in the lower of upper basin, which would affect lower basin mainstream supply can be constructed in the Colorado River Basin without congressional action or acquiescence. Rivers and Harbors Act, title 33, United States Code, sections 401 et seq. See *United States v. Arizona*, 295 U.S. 174 (1935); *United States v. Rio Grande Irrigation Co.*, 174 U.S. 890 (1899); *Oklahoma v. Atkinson*, 313 U.S. 508 (1941); *United States v. Grand River Dam Authority*, No. 503, October term, 1959; *Wisconsin v. Illinois*, 278 U.S. 367, 411 (1929); *United States v. Republic Steel Corp.*, No. 56, October term, 1959. Furthermore, as a practical matter, it is virtually impossible to finance such projects without the help of Congress.

"No new mainstream projects have been authorized by Congress in Arizona or Nevada, and California herself recognizes that the upper basin depletion at Lee Ferry will not exceed, under existing and presently authorized projects, 3,840,000 acre-feet per annum. Thus unless Congress authorizes new projects, even on California's own assumptions, her existing uses cannot be endangered. It is for Congress to determine the limits of new construction in the basin and thus the extent to which California's existing uses risk curtailment" (pp. 114-115).

In the event that insufficient water is released from the mainstream reservoirs to satisfy 7,500,000 acre-feet of consumptive use in the United States in 1 year, the supply must be prorated among the three mainstream States. Each State's allocation is that proportion of the consumptive uses which can be satisfied by the available water which its apportionment of the first 7,500,000 acre-feet of mainstream consumption bears to the aggregate apportionment to all three States. Thus, if in 1 year water is available to satisfy an aggregate of only 6 million acre-feet of consumptive use in the three States, each State's apportionment will be determined by the ratios described above, viz:

$$\frac{2.8}{7.5} \times 6 \text{ million acre-feet to Arizona;}$$

$$\frac{4.4}{7.5} \times 6 \text{ million acre-feet to California;}$$

$$\frac{0.3}{7.5} \times 6 \text{ million acre-feet to Nevada (p. 306).}$$

---

FEBRUARY 18, 1961.

MEMORANDUM RE SPECIAL MASTER'S REPORT OF DECEMBER 5, 1960, IN  
ARIZONA V. CALIFORNIA

If the Supreme Court approves the report and recommended decree filed by Special Master Rifkind, dated December 5, 1960, in *Arizona v. California*, several serious problems which we had hoped the Court would determine will be referred back to Congress for ultimate solution. The case is now being briefed pursuant to a time schedule announced by the Court which will conclude with

oral argument in the next term of Court. Needless to say, we will exhaust every effort to reverse the special master, but unless and until that is accomplished, the problems created by his report will confront both California and the Congress.

#### THE MASTER'S VIEW OF THE COMPACT

In effect, the special master treats the apportionments in the Colorado River compact as "ceilings on appropriations," not as apportionments in perpetuity; he believes that there will be no shortage in the lower basin unless Congress decides to build great new upper basin projects; that there is nothing to show that Congress contemplates that maximum upper basin depletions will exceed 4.8 million acre-feet per annum. In short, he implies that the central Arizona project can be built without injury to California because large quantities of upper basin water will be available indefinitely. We think he is wrong. For example:

#### THE LOWER BASIN

1. The special master concludes that the Boulder Canyon Project Act authorized the Secretary of the Interior to allocate waters of the main stream among Arizona, California, and Nevada, and that successive Secretaries did so in contracts that establish a formula which is independent of the Colorado River compact. The difference, basically, is that while both the compact and the project act speak of 7.5 million acre-feet per annum apportioned to the lower basin (by article III(a) of the compact), the compact includes the lower basin tributaries in this 7.5 million of consumptive use while the project act, he says, excludes the tributaries and divides 7.5 million acre-feet of main stream supply. The effect is to deny to California over a million acre-feet per annum.

2. The formula discovered by the special master gives California 44/75, Arizona 28/75, and Nevada 3/75 of the first 7.5 million acre-feet (or of any lesser quantity) of main stream water released by the Secretary from Lake Mead for their use in any year. If there is more than 7.5 million, Arizona and California are to share the excess equally. What he fails to say is that if respect is given to the compact, the Mexican Treaty, and the realities of the long-term water supply, the lower basin's dependable main stream supply will be, not 7.5 million acre-feet, but less than 6 million. There is thus a built-in shortage in the special master's formula.

3. California's 44/75 of 6 million would be 3.5 million. California's three existing projects are constructed to use 5.4 million, and in fact used nearly 5 million in 1960. Of this, the metropolitan water district used 900,000, and the constructed capacity of its aqueduct is 1.2 million. But the metropolitan water district's priorities are junior to 3.85 million of old agricultural priorities, and also junior, says the master's report, to about 40,000 acre-feet of Indian rights. Consequently, under the master's formula, whenever the total main stream supply available to the three States drops below about 8.8 million acre-feet, California will receive less than 5.1, so the metropolitan water district will suffer shortage; and whenever it falls below approximately 6.6 million, California will receive less than 3.9, so the district's supply will fail completely.

4. The foregoing figures are stated in terms of "consumptive use," that is, "diversions less returns to the river." They are easily translatable into requisite flows at Lee Ferry, to discover how much the lower basin must receive from the upper basin to make the master's formula enduring. The translation simply requires the addition of the Mexican Treaty requirement, which is 1.5 million acre-feet per annum, and the net losses between Lee Ferry and the Mexican boundary, which are over 1.1 million. Adding these (8.8 plus 1.5 plus 1.1), it is apparent that the Lee Ferry flow must average in excess of 11.4 million per annum if the metropolitan water district is to receive a full supply of 1.2 million, and that an average of 9.2 million (6.6 plus 1.5 plus 1.1) must flow at Lee Ferry for the district to receive any water at all, if the master's formula prevails.

#### THE UPPER BASIN

Can the lower basin expect 11.4 million, or even 9.2 million, acre-feet from the upper basin at Lee Ferry?

1. The special master says this expectation depends on Congress, not the compact. He says the compact's apportionment of 7.5 million acre-feet per annum to the upper basin is a "ceiling on appropriations"; that there is no basis to predict that Congress will ever authorize projects to use this much; that

congressional reports do not indicate that more than 4.8 million will be used, and that this is a long way in the future.

2. This belief is diametrically opposite to the upper basin States position (a) that the compact apportionment of 7.5 million is "their" water, (b) that Congress is committed to its full utilization in the upper basin, and (c) that projects will be brought forward as rapidly as possible, in every session of Congress, to accomplish this; indeed, several new ones are now pending.

3. The special master implies that the central Arizona project can be built without harm to California because there will always be large quantities of unused upper basin water available for use in the lower basin.

4. The fact is, however, that the Congress is proceeding to consider and authorize upper basin projects which will exhaust any supposed margin.

THE MARGIN FOR UPPER BASIN DEVELOPMENT IF THE CENTRAL ARIZONA PROJECT IS BUILT

1. All agree that the average annual "virgin flow" or undepleted flow at Lee Ferry since 1922 (the date when actual records of flow at Lee Ferry began), absent all upper basin development, would have been only 14 million acre-feet. Since 11.4 million acre-feet must flow at Lee Ferry if California is to receive a full supply under the master's formula, simple subtraction leaves 2.6 million for all upper basin depletions, present and future (14 minus 11.4 equals 2.6). Present depletions are over 2.3 million, without adding anything at all for depletions to be occasioned by the Colorado River storage project, now under construction, or other projects now pending before Congress.

2. Since an average flow of 9.2 million at Lee Ferry supplies nothing at all to the metropolitan water district under the master's formula, if the central Arizona project is built, simple subtraction shows that total upper basin depletions of 4.8 million would reduce the District to zero (14 minus 9.2 equals 4.8). This is an increase of only about 2 million above depletions which will be occasioned by full operation of existing upper basin projects, again without considering the authorized Colorado River storage project or pending projects.

3. Even if average annual "virgin flow" for the past 60 years (which was 15.2 million) were substituted for that of the past 40, the metropolitan water district would begin to suffer whenever upper basin depletions rise to about 3.8 million, and the district's supply would be wiped out whenever upper basin depletions rise to about 6 million—assuming that the central Arizona project is constructed. On the other hand, if the 1930-60 average Lee Ferry "virgin flow," which was only 13.1 million acre-feet, were substituted, the situation would become more extreme than any we have stated. In that case total upper basin depletions of about 3.9 million acre-feet would wipe out the metropolitan water district's supply under the master's formula—always assuming construction of the central Arizona project.

4. But here, again, the special master says if this shortage occurs, it will depend on the future decisions of Congress to authorize projects, and is thus the responsibility of Congress, not the Court.

NORTHCUTT ELY,

*Special Assistant Attorney General, State of California.*

The CHAIRMAN. May I say to the Senator from Colorado that he is an excellent lawyer and very much interested in this whole question. I hope he will go into this report as well.

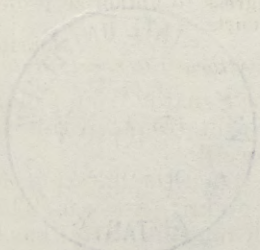
Senator CARROLL. The reason I asked the question, Mr. Chairman, was because the next question I was going to ask was: The Senator from California has not stated whether or not this matter has been presented in brief to the special master. If oral arguments are to be made, I should think that the remarks of the chairman here this morning clearly state the position of the upper basin States, that this is not a limitation upon us.

We do not propose to be limited by any dictum of a special master. And whether or not the Supreme Court should try to reach the whole issue at once is a matter on which I am not fully aware.

But on this point I think we can have general agreement that we do not intend to have anybody place a limitation on our rights under the compact. And I think that is the point the chairman is making.

The CHAIRMAN. Furthermore, I will just say that I do not believe that the States of Arizona and California will be very well satisfied with the final decision if it is based on the special master's report, because I cannot find out, from that, who won.

(Whereupon, at 11:55 a.m., the subcommittee proceeded to the consideration of other business.)



but on this point I think we can have general agreement that we do not intend to have anybody have a limitation on our rights under the grant. And I think that is the point the chairman is making. The chairman, furthermore, I will just say that I do not believe that the State of Arizona and California will be very well satisfied with the final decision if it is based on the special master's report because I cannot find out from that who you (Whitcomb) are, the submission proceeded to the consideration of other business.

