This is our proposed coordinated report on the San Juan-Chama project, Colorado-New Mexico and the Navajo Project, New Mexico, both of which are proposed as participating projects of the authorized Colorado River Storage Project. It is based on and includes the following accompanying reports as modified herein:


The initial project investigation and preparation of the Regional Director's Report of November 1955 and the Navajo Agency Report of January 1955 on the two potential projects in New Mexico were based upon the criteria established by the State in Governor Macom's letter of March 4, 1953, to the Department as set forth in the reports. A coordinated submission of the two planning reports to the State of New Mexico for consideration and resolution of its water allocation problems in the San Juan Basin was made by the Department's letter of August 2, 1956, a copy of which is appended to and made a part of this proposed report.

The above-cited Regional Director's Supplemented report of May 15, 1957, and the Navajo Agency Supplemental Report of March 1957, were prepared on the basis of New Mexico's desires as expressed in Governor Simm's letter of December 12, 1956, to the Department, copy attached, and subsequent actions as set forth in the Supplemental reports.
SAN JUAN-CHAMA PARTIAL DEVELOPMENT PROJECT

The ultimate plan of development for the San Juan-Chama Project, as presented in the Regional Director's Report of November 25, 1955, 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. The ultimate plan is based upon an average annual diversion of 215,000 acre-feet of from the upper tributaries of the San Juan-River into the Rio Grande Basin. By exchange, a small portion would be diverted to the Canadian River Basin, where it would be utilized in New Mexico for irrigation, municipal, and industrial water supply, and related purposes.

The ultimate plan of the San Juan-Chama Project as modified by the Supplemental Report of May 15, 1957, would provide supplemental water to about 224,000 acres of arable land in the project area; provide water for replacement of watershed and pumping depletions caused by miscellaneous uses throughout the Rio Grande Basin; provide additional municipal and industrial water to the Albuquerque area; and provide additional recreation facilities in the Rio Grande Basin.

On the basis of January 1957 prices, the estimated construction expenditure for the ultimate project facilities, comprised principally of regulating and storage reservoirs, collections, diversions, and conveyance systems and associated works, is about $149,000,000, exclusive of any costs of Navajo Dam and Reservoir, a storage unit of the Colorado River Storage Project now under construction. The Regional Director's reports find that the ultimate plan for the San Juan-Chama Project and the stage development thereof, has engineering feasibility and is economically justified. The evaluated total annual benefits exceed the estimated annual costs in a ratio of about 1.7 to 1. If direct benefits only are considered in a 50-year analysis the ratio is 0.99 to 1, or practically unity.

The plan for an initial stage development of the San Juan-Chama Project, as presented in the Regional Director's Supplemental Report of May 15, 1957, 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 for an additional municipal and industrial water supply (57,000 acre-feet) for ALEXANDER the city of Albuquerque; to provide a supplemental irrigation water supply (30,000 acre-feet) to 39,000 acres of land in the Cerro, Taos, Llano, and Pojoaque tributary irrigation units in the Rio Grande Basin in New Mexico; and to provide supplemental water (22,600 acre-feet) for irrigation of 81,600 acres of irrigable land in the existing Middle Rio Grande Conservancy District.

The initial stage development would not provide for an allocation of water to fish and wildlife purposes. However, as set forth in the report, the water supply studies on which the plan is based include reservoir releases or by-passes of stream flows, essentially as recommended by the U. S. Fish and Wildlife Service in its report of September 1955, to protect fishery values. Additional
detailed studies of the fish and wildlife resources affected by the initial stage of development are recommended to be conducted, as necessary, after project authorization in accordance with Section 5 of the Act of August 14, 1946 (60 Stat. 1086), such reasonable modification in the authorized project facilities and operations, including the acquisition of lands, would be made by the Secretary as he may find appropriate to preserve and propagate these resources. The preservation and propagation of fish and wildlife would be a purpose of the project.

The plan of development for the initial stage involves three major elements comprising the diversion facilities (diversion dams and conduits), regulating facilities (Heron No. 4 Dam and Reservoir, and enlargement of outlet works of the existing El Vado Dam), and water use facilities (principally for the tributary irrigation units). Minimum basic recreation facilities would also be provided at the five project reservoirs as recommended by the National Park Service in its report of November 1954. The cost of these facilities was estimated at that time to be $360,000. The National Park Service advises that the facilities would cost about $400,000 at January 1957 prices. The appended reports are hereby modified to reflect this recent estimate of cost.

The estimated construction cost of the project features of the initial stage, on the basis of January 1957 prices, is about $31,110,000, which includes the more recent estimate of $400,000 for minimum basic recreation facilities but is exclusive of any costs of constructing Navajo Dam and Reservoir. Project operation, maintenance, and replacement costs are estimated at about $326,000 annually for a 50-year period and about $357,000 annually for a 100-year period. Of the project construction costs, reimbursable allocations of about $27,600,000 are made tentatively to municipal and industrial water supply, $50,310,000 to irrigation, and $2,800,000 to future users. The recreational costs would be nonreimbursable.

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. An interest rate of 2-7/8 percent, as certified by the Secretary of the Treasury in accordance with Section 5(f) of Public Law 485, 84th Congress, is presently applicable in payout studies rather than the 2-1/2 percent used in the Supplemental Report which is hereby revised. Accordingly, the interest during construction and the amortization periods would be $1,990,000 and $26,190,000 respectively, and the total to be repaid by the municipal water users would be $55,374,000 instead of the amounts shown in the summary and on pages 25, 26, and 27 of the supplemental report. The cost of raw municipal water would therefore increase to 7.2 cents per 1,000 gallons, or $23.46 per acre-foot.

The municipal and industrial water rate would govern only in the case of initial stage construction. Repayment contract terms and water rates under future negotiations will be subject to reexamination as ultimate plans develop and additional quantities of municipal and industrial water are contracted. Where necessary, in the adequate financing of the ultimate plan, water rates and
Irrigation water users probably would repay about $8,000,000 of the allocation to irrigation. Repayment contracts would be made with "organizations" of the type provided in Section 4 of the Colorado River Storage 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 Public Law 485. Costs allocated to future uses, which involve the provision 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 from that apportionment if not otherwise collected as a result of subsequent allocations to the water users.

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 1.15 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 0.8 to 1.

The Commissioner of Reclamation hereby concurs in and adopts the recommendations of the Regional Director as set forth on page 32 of his May 15, 1957, Supplemental Report on the San Juan-Chama Project, and concurs in the recommendations of the National Park Service and the Fish and Wildlife Service as discussed above.

NAVAJO PARTICIPATING PROJECT

The January 1955 report of the Navajo Agency, Bureau of Indian Affairs, on the potential Navajo Project presented a plan for the irrigation of 137,250 acres of irrigable land of which 109,000 acres are within the Navajo Indian Reservation, designated as the Shiprock Division of the Project, and 28,250 acres are non-reservation lands designated as the South San Juan Division. All of the lands within the reservation and 1,660 acres outside the reservation are Indian-owned. Remaining lands outside the reservation are public lands and lands owned by non-Indians. The 1955 plan also provided for recreation, fish and wildlife, and flood control benefits from the Navajo Dam and Reservoir. That dam and reservoir are now under construction by the Bureau of Reclamation as a storage unit of the Colorado River Storage Project.

As proposed in that report, the project plan for irrigation contemplates diverting San Juan River water from Navajo Dam and Reservoir and conveying it about 29 miles through a main highline canal to a direct-connected turbine pumping plant at Kutz Canyon, serving 1,696 acres enroute. There a part of the diverted water would be pumped to two higher canals for irrigation of 44,210 acres of which 17,700 acres are within the Indian Reservation. The remainder of the water would be delivered to the Shiprock Main Canal for irrigation of 91,350 acres of which 90,240 acres are reservation lands. The plan also includes a lateral distribution system and a system of
A revision of the January 1955 project plan is presented in the March 1957 Supplemental Report of the Navajo Agency. The revised plan is based on the December 12, 1956, letter from Governor Simms and the January 9, 1957, Resolution of the Advisory Committee of the Navajo Tribal Council, approving the proposal of the Governor, copies of which are appended to the supplemental report. The changes recommended by the State were, briefly, that "the lands developed should be solely for Indian use, should include the most suitable lands in the Shiprock and South San Juan Divisions and should not exceed 115,000 a.f. per annum."

Under the revised single-purpose plan all project water for irrigation would be diverted from Navajo Reservoir by a main gravity canal to Kutz Canyon, were the originally proposed pumping plant would be replaced by a siphon to serve a part of the lands in the South San Juan and Shiprock Divisions by gravity instead of pumping as proposed in the 1955 report. Beyond Kutz Canyon, the proposed canal, approximately 170 feet higher in elevation than the originally planned Shiprock Main Gravity Canal to serve Navajo Indian Reservation lands, would continue about 46 miles to a siphon at Chaco Wash. There the water would be dropped through a powerplant to develop electrical energy for pumping water to lands in the Newcomb and Bennett Peak areas. The main canal would extend an additional 77 miles beyond the powerplant.

The irrigable acreage to be developed under the revised plan would include (a) 8,518 acres served by gravity below the main canal in the South San Juan Division and 70,359 acres in the Shiprock Division, and (b) 25,822 acres served from the pump canals in the Shiprock Division.

A diversion of 508,130 a.f. of water would be required for that purpose, which would result in an average annual stream depletion of about 281,800 a.f. The reduction in acreage as a result of the proposed development as an all-Indian project and exchange of lands in the South San Juan Division for lands in the Shiprock Division would make it possible to include (a) all lands in the South San Juan Division originally proposed for service from pump canals, (b) essentially all lands under gravity service under the main canal beyond Pajarito Wash, and (c) various isolated tracts of land in the Cinnebeshon and Pena Blanca Wash areas.

The revised plan of development would not provide recreation opportunities or flood control benefits, although a report on fish and wildlife has not been completed, it is believed that opportunities may be provided for some improvement of these resources. Detailed studies of the fish and wildlife resources affected by the project are recommended to be conducted, as necessary, after project authorization in accordance with Section 2 fo the Act of August 14, 1946 (60 Stat. 1080). Such reasonable modification in the authorized project facilities and operations, including the acquisition of lands, would be made by the Secretary as he may find appropriate to preserve and propagate these resources, and which in no way would adversely affect the allocation of water for the Navajo Project lands. The preservation and propagation of fish and wildlife would be a purpose of the project.

The estimated construction cost of the revised plan of development for the Navajo Participating Project is $126,865,300 at March 1957 prices, exclusive of costs of construction Navajo Dam and Reservoir. Operation, maintenance, and replacement costs would average about $304,200 annu-
ally at January 1957 prices. The benefit-cost ratio for the project has
been determined to be 1.2 or 1 on the basis of total irrigation benefits.

As provided by Sections 4(d) and 6 of Public Law 485 (70 Stat. 107) au-
thorizing the Colorado River Storage Project and Participating Projects, in
the event that 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 Y
land to repay is subject to the Act of July 1, 1932 (47 Stat. 564); and
the costs beyond the capability of such lands to repay are to be deter-
mined, and in recognition of the fact that assistance to the Navajo In-
dians is the responsibility of the entire nation, shall be nonreimbursable.

The Commissioner, Bureau of Indians Affairs, concurs in and adopts the
revised plan of development for the Navajo Project, as described in the
Navajo Agency's March 1957 Supplemental Report, and recommends that:

1. Authority be sought for the Secretary of the Interior acting
acting pursuant to the Act of April 11, 1956 (70 Stat. 105, 106), to con-
struct the Navajo Project as a participating project, but with such mod-
ification of, omissions from, or additions to the works as the Secretary
of the Interior may find proper, and to operate and maintain the works
required for the project as described in the Agency's reports.

2. The Navajo Project lands be developed solely as a Navajo
Indian irrigation project.

3. Authorization for this project provide authority for the
acquisition and addition to the Navajo Indian Reservation of Federal,
State, and private lands necessary for the revision of the project in
accordance with the letter of the Governor of New Mexico, dated Dec.12,1956

4. Authorization be sought in conformity with the criteria in
the March 1957 supplemental report to provide for:

a. Purchase by the Navajo Indian Tribe, or exchange, of Navajo
Reservation lands for State-owned lands within the project
boundry in conformity with Resolution of the Advisory Com-
mittee of the Navajo Tribal Council No. ACJ-1-57 passed
January 9, 1957.

b. Purchase by the Navajo Indian Tribe, or exchange, of Navajo
Reservation lands for Federal-owned lands within the pro-
ject boundry, in conformity with the Resolution of the Ad-
visory Committee of the Navajo Tribal Council ACJ-1-57 pass-
ed January 9, 1957.

5. Additional studies of incremental canal capacity be made
prior to construction of the project to determine the feasibility of con-
veying domestic and industrial water supplies as recommended by the Pub-
lic Health Service in its report December 1, 1954 and that an equitable
portion of project costs be allocated to that purpose for repayment by
the beneficiaries.
COORDINATED TRANSMITTAL

Pursuant to the expressed desires of the State of New Mexico for coordination and processing of these two proposed projects reports, and subject, of course, to consideration of comments received, we recommend that you approve and adopt this coordinated report as your proposed coordinated report on plans for development of the San Juan-Chama and Navajo Participating Projects of the Colorado River Storage Project, and that you authorize us to transmit copies to the Affected States and Secretary of the Army for review as required by the Flood Control Act of 1944 (58 Stat. 877), to the State of New Mexico and Colorado for the views and recommendations of the head of the agency exercising administration over the wildlife resources in each of those States pursuant to the provisions of the Act of August 14, 1946 (60 Stat. 1080), to the other interested Federal Agencies for their comments as provided by inter-agency agreement, and to the Upper Colorado River Commission.

Respectfully,
/s/ E. G. Nielsen
Acting Commissioner of Reclamation
/s/ Flenn L. Emmons
Commissioner of Indian Affairs

Attachments

Approved and adopted: October 16, 1957

(Sgd) Fred A. Seaton
Secretary of the Interior