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CENTRAL VALLEY PROJECT DOCUMENTS

CLAIR ENGLE, *Chairman*
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
HOUSE OF REPRESENTATIVES

PART ONE

Authorizing Documents

1956

To Senator Jim Buckle
with best wishes

Berni Snijder

Mar 1977

FROM
Congressman
Clair Engle
2nd District California

House Report No. 602, 84th Cong., 1955

• On May 16, 1955, the House Committee on Interior and Insular Affairs ordered H. R. 4663 reported to the House with amendments. Congressman Engle presented the report on May 19, 1955 (H. Rept. No. 602, 84th Cong.) as follows:

[AUTHORIZING THE SECRETARY OF THE INTERIOR TO CONSTRUCT, OPERATE, AND MAINTAIN THE TRINITY RIVER DIVISION, CENTRAL VALLEY PROJECT, CALIFORNIA, UNDER FEDERAL RECLAMATION LAWS

The Committee on Interior and Insular Affairs, to whom was referred the bill (H. R. 4663) to authorize the Secretary of the Interior to construct, operate, and maintain the Trinity River division, Central Valley project, California, under Federal reclamation laws, having considered the same, report favorably thereon with amendments and recommend that the bill do pass.

The amendments are as follows:

Page 1, line 9, following the word "to" insert the word "and".

Page 2, line 13, following the word "County", change the period to a colon and add the following:

Provided, That the Secretary is authorized and directed to continue to a conclusion the engineering studies and negotiations with any non-Federal agency with respect to proposals to purchase falling water and, not later than 18 months from the date of enactment of this Act, report the results of such negotiations, including the terms of a proposed agreement, if any, that may be reached, together with his recommendations thereon, which agreement, if any, shall not become effective until approved by Congress.

Page 3, following line 20, add the following new section 3:

Sec. 3. The Secretary is authorized to investigate, plan, construct, operate, and maintain minimum basic facilities for access to, and for the maintenance of public health and safety and the protection of public property on, lands withdrawn or acquired for the development of the Trinity River division, to conserve the scenery and the natural, historic, and archeologic objects, and to provide for public use and enjoyment of the same and of the water areas created by these developments by such means as are consistent with their primary purposes. The Secretary is authorized to withdraw from early or other disposition under the public-land laws such public lands as are necessary for the construction, operation, and maintenance of said minimum basic facilities and for the other purposes specified in this section and to dispose of such lands to Federal, State, and local governmental agencies by lease, transfer, exchange, or conveyance upon such terms and conditions as will best promote their development and operation in the public interest. The Secretary is further authorized to investigate the need for acquiring other lands for said purposes and to report thereon to the Committee on Interior and Insular Affairs of the Senate and House of Representatives, but no lands shall be acquired solely for any of these purposes other than access to project lands and the maintenance of public health and safety and the protection of public property thereon without further authorization by the Congress. All costs incurred pursuant to this section shall be nonreimbursable and nonreturnable.

Page 3, line 21, renumber "Sec. 3." to read "Sec. 4."

Page 4, line 11, strike the word "six" and insert in lieu thereof the word "eighteen".

Page 4, line 12, renumber "Sec. 4." to read "Sec. 5."

Page 5, line 22, renumber "Sec. 5." to read "Sec. 6."

Page 6, line 4, strike the numeral "4" and insert in lieu thereof the numeral "5".

PURPOSE

This bill would reauthorize the Trinity River division of the Central Valley project, California, to provide for modifications in both the physical plan and the operating plan. Construction of this addition to the Central Valley project would be for the primary purpose of meeting the most urgent need for irrigation water in the Sacramento and San Joaquin River Basins and for the additional purpose of supplying electric energy to meet the expanding power needs in northern California.

HISTORY OF PRESENT PROPOSAL

The Trinity River project was authorized under the 1939 Reclamation Act by a finding that it met the rigid requirements of that act, filed by Secretary of the Interior Chapman on January 2, 1943. Secretary Douglas McKay on February 17, 1955, approved the Trinity River project and recommended its construction in a supplemental report. Commissioner of Reclamation Dexheimer, in his testimony before the House Committee on Interior and Insular Affairs on April 13, 1955, recommended immediate commencement of construction of the Trinity River project. The State engineer of California, in his official comments on April 9, 1953, approved the project report and urged its immediate authorization and construction. The Governor of California, Goodwin Knight, on April 14, 1955, wired the House Committee on Interior and Insular Affairs reaffirming the State's official position in support of the immediate commencement of construction.

Since 1942 more than \$572,000 has been spent by the Bureau of Reclamation in planning and preliminary engineering related to construction of the project, and the current budget submitted by the President contains an additional \$400,000 for continuing the advanced planning for this project.

The Trinity development has been under study by various agencies, including the State of California and the Federal Power Commission, since 1923. It was included in the California State water plan in 1931. In 1943 the Bureau of Reclamation started intensive study looking toward the authorization and construction of the project. The feasibility report was completed in 1951 and is the basis of action taken by Secretary of the Interior Chapman which is referred to hereinbefore.

The present bill, herein reported on, in addition to its sponsorship by the Secretary of the Interior, by Governor Goodwin Knight of California and by the State water agency, is coauthored in bills for a similar purpose by Congressmen Hagen, Sisk, and Moss and by Senators Kuchel and Knowland of California.

Detailed studies subsequent to authorization of the Trinity River division have resulted in the Department of the Interior recommending certain modifications in the physical plan for the development. The present plan, including the recent modifications recommended by the Department and the resulting changes in the project economic and repayment aspects, is described in the Department's supplemental report dated July 1954.

The Irrigation and Reclamation Subcommittee of the 83d Congress held field hearings on the Trinity project in Redding, Calif., in April 1954. Additional hearings were held on April 13, 14, and 15, and on May 3 and 16 of this year in Washington on the legislation herein reported.

This bill would authorize the plan of development which the Department now recommends and, in addition, sets out certain operating requirements and provides for financial assistance to Trinity County in meeting costs attributable to the construction activities in the area.

NEED FOR THE TRINITY PROJECT

In the words of California's Governor Knight:

Immediate authorization and construction of the Trinity River project is required to forestall increasing economic losses due to water shortages.

In the words of Commissioner of Reclamation Dexheimer:

The Trinity River division is urgently needed to supply additional water to the Central Valley project for use in both the Sacramento and San Joaquin River Basins.

The Central Valley project, as presently authorized and under construction, must have additional water for a firm supply under full development. The need for this additional water is developing rapidly and if this need is to be met in time to forestall serious losses, the construction of the Trinity project must be undertaken immediately.

Along the west side of the San Joaquin Valley, where a portion of the Trinity water is proposed to be used, the water situation is rapidly reaching a critical stage. Large areas are experiencing an alarming drop in the ground-water table and will go out of production in a very few years unless additional water supplies are imported to the area.

There is also a real need for the electric power and energy which will be made available from the Trinity River division to meet the ever-expanding power demands in northern California.

The committee concludes from the reports of the Department of the Interior and the State of California and from the testimony given the committee during its hearings on the project that there is immediate need for supplementary sources of irrigation water supply for the Central Valley and for increased electric capacity in northern California.

PLAN OF DEVELOPMENT

The Trinity River division, in Trinity and Shasta Counties in northwestern California, consists of Trinity dam, reservoir, and powerplant; Lewiston diversion dam, reservoir, and powerplant; Towerhouse tunnel, powerplant, and diversion dam; and Matheson tunnel and powerplant. The general plan proposes the diversion of water from the Trinity River Basin into the Sacramento River Basin of the Central Valley. Trinity Reservoir on the Trinity River would be the major storage facility, having a capacity of 2,500,000 acre-feet. Lewiston Reservoir, a short distance downstream from Trinity Reservoir, would reregulate the flows from Trinity Reservoir for diversion eastward through Towerhouse tunnel and for downstream uses, especially for fish purposes. The diverted water would flow through Towerhouse tunnel and drop through Towerhouse powerplant into Clear Creek. Towerhouse diversion dam on Clear Creek just below the powerplant would divert water through Matheson tunnel from which it would drop through Matheson powerplant and into the existing Keswick Reservoir on the Sacramento River. The works authorized would also include irrigation facilities to serve approximately 20,000 acres east of Redding.

The Trinity River division would be integrated physically with the Central Valley project and its operation would be coordinated with that of other features of the Central Valley project. Under the plan of development and operation an average of 704,000 acre-feet of Trinity River water would be diverted annually to the Sacramento River Basin. This amount, when coordinated with the operation of the Central Valley project system, would provide about 1,190,000 acre-feet of water for additional use in the Central Valley. Of this 1,190,000 acre-feet, about 665,000 acre-feet would be used annually, under the plan, to meet the ultimate needs of the Sacramento canals service area, comprising about 200,000 acres, and about 525,000 acre-feet annually would be available for use on lands of the west side of the San Joaquin Valley. The total installed hydroelectric power capacity proposed in the plan would be 233,000 kilowatts, which would increase the Central Valley project energy by over 1 billion kilowatt-hours annually.

The fishery resources of the Trinity River are an asset to the Trinity River Basin as well as to the whole north coastal area. Accordingly,

the Trinity River development has been planned with a view to maintaining and improving fishery conditions. The legislation requires that the project be operated so as to insure the preservation and propagation of fish and wildlife and sets out minimum flows to be maintained below the Trinity diversion point and below the Clear Creek diversion point.

With respect to the transmountain diversion of water from the Trinity River Basin to the Central Valley, the committee notes that such diversion is approved by the State of California. The committee notes also that both the State and the Bureau of Reclamation conclude that there is available for importation from the Trinity River, water that is surplus to the present and future water requirements of the Trinity and Klamath River Basins, and that surplus water, in the amount proposed in the Trinity division plan, can be diverted from the Trinity River to the Central Valley without detrimental effect to the fishery resources. The committee believes it unnecessary to await the final results of studies presently under way to determine precisely the future water requirements in the Klamath River Basin before going ahead with this relatively small diversion compared to the average amount wasting to the Pacific Ocean from the basin each year.

ECONOMIC ASPECTS

The estimated cost of the Trinity River division, including the irrigation facilities east of Redding, is about \$225 million. For all practical purposes, all of this amount would be reimbursable. Only \$215,000 for recreational facilities and \$47,000 for fish-protection facilities would be nonreimbursable. About \$68 million is allocated to irrigation and about \$156.5 million is allocated to power. The Trinity River division would be integrated financially with the authorized features of the Central Valley project. Under the repayment plan, the power allocation would be completely repaid by 1988 or within 26 years after the last power unit was placed in operation. All reimbursable costs allocated to irrigation would be repaid within 50 years including development period.

The economic justification for the Trinity River division has been determined by comparing annual benefits from the development with annual Federal costs. This economic analysis indicates that the development would be an outstanding one from an economic standpoint. The primary benefits alone exceed the costs in a ratio of 1.86 to 1, and when indirect benefits are included, the benefit-cost ratio becomes 3.31 to 1.

POWER COMPANY'S PROPOSAL

The Pacific Gas & Electric Co. has submitted to the Department

struct the power facilities and pay the Federal Government annually for the falling water.

The Department of the Interior has made no final recommendation on the Pacific Gas & Electric proposal because the engineering and economic studies, together with the negotiations incident to that proposal, are incomplete. The committee, therefore, inserted language in this bill directing the Department of the Interior to continue its studies and negotiations, and to report the result thereof to the Congress not later than 18 months after enactment, together with its recommendations thereon.

TRINITY COUNTY BENEFITS

The legislation authorizes payments to Trinity County for additional costs of Government attributable to construction activities in the county, and authorizes an annual in-lieu taxpayment equal to the loss of taxes to the county. The committee believes that these payments, although not normally authorized for reclamation projects, are warranted in this instance. The Federal Government owns approximately 90 percent of the land area in Trinity County and the county would, without question, be unduly burdened by the construction activities in the area and the loss of tax revenues.

ANALYSIS OF THE BILL

Section 1 of the bill gives its purpose and scope. It sets out the works which would be authorized to be constructed. The language is sufficiently broad to permit modification in the conveyance-system plan including storage on Clear Creek if final studies indicate such modification would improve project feasibility and permit development of additional lands in Shasta County. The power facilities are authorized to be constructed by the Federal Government. However, a proviso is included, which authorizes and directs the Secretary to continue to a conclusion the negotiations with the Pacific Gas & Electric Co. with respect to its proposal for the purchase of falling water and to report to the Congress within 18 months the results of such negotiations together with his recommendations thereon. Any agreement which may be reached could not become effective until approved by the Congress. In the absence of such approval, Federal construction of the power facilities could proceed.

Section 2 of the bill provides that the Trinity River division be integrated and coordinated with other features of the Central Valley project from both a financial and an operational standpoint. With respect to the project operation, section 2 also requires the Secretary to adopt appropriate measures to insure the preservation and propagation of fish and wildlife and sets out certain minimum flow require-

ments during certain months to accomplish this. Section 2 further provides that allocations of cost to the preservation and propagation of fish and wildlife shall be nonreimbursable.

Section 3 of the bill gives the Secretary authority to plan, construct, and operate minimum basic facilities for recreational and other related purposes. This section authorizes the Secretary to withdraw public lands that are necessary for the construction of such facilities and to dispose of these lands to Federal, State, or local governmental agencies upon terms and conditions that will best promote their development and operation in the public interest. However, no lands may be acquired solely for the purposes of this section, other than access to project lands, the maintenance of public health and safety, and the protection of public property thereon without further authorization by the Congress. The cost of constructing and operating these basic facilities would be nonreimbursable.

Section 4 of the bill provides for marketing the electric energy attributable to the Trinity River division in accordance with the power preferences expressed in Federal reclamation laws, except that a first preference to the extent of 25 percent of the energy is given to preference customers in Trinity County. These Trinity County preference customers may exercise their right to this energy when it first becomes available or upon the same date in each successive fifth year thereafter, providing they give written notice of their intention to take the energy not less than 18 months prior to said date.

Section 5 of the bill authorizes payments to Trinity County of additional costs of government incurred during the period of construction that are attributable to the construction activities in the area, including the cost for (1) Police, hospital, and welfare facilities; (2) repair, maintenance, and replacement of existing roads; and (3) establishment of new roads. Section 5 also authorizes the Secretary to pay to Trinity County annually an in-lieu taxpayment equal to the loss in taxes to Trinity County from real property and improvements taken for project purposes.

Section 6 of the bill sets out the amount authorized to be appropriated for construction of the Trinity River division.

DEPARTMENT'S REPORT

The Department's report on the Trinity River division is included in its report on H. R. 105, a bill to authorize both the Trinity River division and the San Luis unit of the West San Joaquin division of the Central Valley project. The report on H. R. 105, so far as it pertains to the Trinity River division, can be considered as the Department's report on H. R. 4663. The report follows:

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., April 12, 1955.

HON. CLAIR ENGLE,
*Chairman, Committee on Interior and Insular Affairs,
House of Representatives, Washington, D. C.*

MY DEAR MR. ENGLE: You have requested a report from this Department on H. R. 105, a bill to authorize the Secretary of the Interior to construct, operate, and maintain as additions to the Central Valley project, California, the Trinity River division and the San Luis unit of the West San Joaquin division.

As an interim response to this request, there are enclosed copies of our proposed report on the Trinity River division, Central Valley project, California, dated January 19, 1955, and of two attachments to that report entitled "Supplementary Report, Trinity River Division, Central Valley Project, California" and "Addendum to Supplementary Report * * * Trinity River Division, Central Valley Project, California," dated March 1954 and January 1955, respectively. These documents are now before officials of the States of California and Oregon and of various Federal agencies for review. After their review has been completed and the comments received have been considered here, we will be in a position to advise you more fully than we now can with respect to the Trinity River division portion of H. R. 105. Our final report on the portion of the bill dealing with the San Luis unit of the West San Joaquin division of the project will necessarily be somewhat further delayed. A planning report on that development is now in preparation. Until it has been completed and reviewed by the State of California and by interested Federal agencies, we will not be in a position to do more than furnish a sketch of this proposed development to your committee.

The physical plan for development of the Trinity River division is set forth in the attached report thereon. It is unnecessary, therefore, to repeat it here. Suffice it to say that the works which would be authorized if H. R. 105 is enacted in its present form are, for the most part, those contemplated in our report. One exception is the Redding-Cow Creek works covered in H. R. 105, page 2, lines 16 to 23. Detailed investigations on the feasibility of these proposed works have not been made. We can only report at this time that such studies as have been made indicate that to provide water service to the area involved at a price the water users could afford to pay would require a considerable but as yet indeterminate amount of financial assistance. Another possible exception is the single-purpose hydroelectric works of the Trinity division. A firm conclusion has not yet been reached on the relative merits of Federal construction and of non-Federal con-

struction of these works. If it should be concluded that it would be more desirable for these works to be undertaken by a non-Federal agency than by the Government, or to leave the question of the proper construction agency to be decided later, the text of H. R. 105 could be amended accordingly.

The need for the additional water supplies which construction of the Trinity division, either under its existing authorization (H. Doc. 53, 83d Cong.) or under the enlarged authorization contemplated in H. R. 105 and in our report of January 19, is emphasized by the congressional authorization of the Sacramento Valley canals as part of the Central Valley project (act of September 26, 1950, 64 Stat. 1036). It is anticipated that full development of the Sacramento canals unit, which is now under construction, will require diverted Trinity River division water. This was pointed out in the Department's report on the unit (H. Doc. No. 73, 83d Cong.) wherein it was stated that "* * * the Trinity River division works are required as a physical means of providing the water supply needed over the long run for the Sacramento canals unit" (p. vii) and that "* * * the Sacramento canals unit has engineering feasibility on the basis that the Trinity River division, upon which the canals unit is dependent for a firm water supply * * * will be authorized and constructed" (p. xi). In addition the importance of the imported water to the San Joaquin River Basin, where large areas are experiencing an alarming drop in the ground-water table as a result of pumping, cannot be overemphasized.

The following listing shows those facilities which in the presently proposed plan are different from the plan on which the existing authorization was based. All features not listed are essentially the same under the two plans.

Feature	New plan	Previous plan
Trinity Reservoir capacity ----- acre-feet--	2, 500, 000	1, 800, 000
Trinity powerplant, installed capacity kilowatt-hours--	90, 000	75, 000
Steam plant and subsidiary transmission facilities kilowatt-hours--	None	70, 000

The changes in the facilities from those previously recommended have resulted from additional information and from suggestions made by public agencies which commented on the earlier report. On an average annual basis, the somewhat expanded plan would divert 704,000 acre-feet of Trinity River water to the Sacramento River Basin. When coordinated with the Central Valley project system, it would provide 1,190,000 acre-feet for additional use in the Central Valley project. (Comparable figures for the previous plan are 660,-

000 acre-feet and 1,010,000 acre-feet, respectively.) Of these 1,190,000 acre-feet, 665,000 acre-feet would be used to meet the ultimate needs of 205,400 net acres in the authorized Sacramento canals unit of the Central Valley project and 525,000 acre-feet would be available for use on other lands in the Central Valley such as those of the potential San Luis unit. The new total installed hydroelectric power capacity contemplated by H. R. 105 and our report would be 233,000 kilowatts as compared to 218,000 kilowatts under the old plan. It is expected that this larger installed capacity of 233,000 kilowatts will increase the Central Valley project energy by 1,067 million kilowatt-hours annually.

The Trinity River division would be integrated physically and financially with the Central Valley project. All reimbursable costs would be repaid within 50 years after the last feature of the division is constructed. The estimated cost of the Trinity River division based on January 1954 prices is \$219,280,000, assuming that the Federal Government builds the power facilities. Under the alternative plan for non-Federal construction of these facilities, the Government's cost of constructing the Trinity River division is estimated at approximately \$154,400,000. Substantially these entire amounts would be reimbursable. Both of them include \$215,000 for minimum recreation facilities which we recommended be provided at Trinity and Lewiston Reservoirs but they do not include the amounts required for the acquisition of approximately 1,200 acres of land adjacent to the reservoir areas primarily for recreation purposes and principally in connection with the provision of the minimum facilities. They also include \$47,000 for fish-protection facilities. Both of these items should be treated as nonreimbursable. Further consideration will be given to the fish and wildlife allocation at the time of preparation of the definite plan report in light of the applicable policies and provisions of the act of August 14, 1946 (60 Stat. 1080).

Public hearings have disclosed the large majority of California interests recognize the value of adding the Trinity River division to the Central Valley project and are anxious that the division be constructed. The few opposed interests who reside downstream in the Klamath River Basin are concerned over their future water needs. Our studies, however, indicate that the proposed diversion would utilize only a small percentage of the water now wasting into the Pacific Ocean from the Klamath River watershed. These studies also disclose that the relatively small amount of water that would be diverted would not affect future development of either the Trinity River Basin or the Klamath River Basin downstream since water in those areas would be more than adequate to satisfy future needs. The Trinity division's ratio of primary benefits to total cost is 1.86 to 1. Total

benefits resulting from the development would outweigh the cost in a ratio of 3.31 to 1.

The fishery resources of Trinity River are an asset to the Trinity River Basin as well as the whole northern coastal area. Accordingly, the Trinity River development has been and should be planned with a view to maintaining and improving fishery conditions. The schedule of water releases for Trinity River flow below Lewiston diversion dam and for Clear Creek flow below Tower House diversion dam used in House Document No. 53, 83d Congress, was recommended by the Fish and Wildlife Service and accepted by this Department. House Document No. 147, 83d Congress, indicates that the California Department of Fish and Game concurs, in substance, in that recommendation.

The flows set out in House Document No. 53, however, are not the same as those prescribed in section 2 of H. R. 105. The flow schedule proposed by the Fish and Wildlife Service is predicated on the seasonal needs of the fishery resources. Since flows should vary in accordance with estimated requirements, the Service-proposed flow schedule is preferable to the flat minimum flow requirement for the months of July through November below Lewiston diversion dam prescribed in H. R. 105, and it is desirable that the minimum flows adopted by the Department for other periods of the year be incorporated in the legislation. Room should also be left in any legislation that is enacted for modification in the light of experience. Since the Secretary of the Interior will necessarily be charged with overall responsibility for the project, including particularly its financial aspects, it is our belief that it must also be his responsibility to determine, in accordance with statutory standards laid down by Congress and after consultation with appropriate State officials, what modification if any should be made. We suggest, therefore, that the language of the proviso beginning on page 3 line 24 of the bill be modified to read as follows:

Provided, That the Secretary is authorized and directed to adopt, with respect to the Trinity River division, measures which, in his judgment, are appropriate to insure the preservation and propagation of fish and wildlife including, but not limited to, the maintenance of the flow of the Trinity River below Lewiston diversion dam and the flow of Clear Creek below Tower House diversion dam in accordance with schedules set forth on pages 77 and 79 of House Document No. 53, 83d Congress, unless, after consultation with the California Fish and Game Commission, he determines that different flows would be adequate for maintenance of fish life and the propagation thereof. The Secretary shall allocate to the preservation and propagation of fish and wildlife an appropriate share of the cost of constructing the Trinity River development, as provided in the act of August 14, 1946

(60 Stat. 1080), and of operating and maintaining the same, such costs to be nonreimbursable and nonreturnable.

In view of the inclusion of basic recreational facilities in the Trinity River plan, it is suggested that a new section be added to H. R. 105 after its present section 3 to read as follows:

"Sec. ——. The Secretary is authorized to investigate, plan, construct, operate, and maintain minimum basic facilities for access to, and for the maintenance of public health and safety and the protection of public property on, lands withdrawn or acquired for the development of the Trinity River division and the San Luis unit projects, to conserve the scenery and the natural, historic, and archeologic objects, and to provide for public use and enjoyment of the same and of the water areas created by these developments by such means as are consistent with their primary purposes. The Secretary is authorized to withdraw from entry or other disposition under the public land laws such public lands as are necessary for the construction, operation, and maintenance of said minimum basic facilities and for the other purposes specified in this section and to dispose of such lands to Federal, State, and local governmental agencies by lease, transfer, exchange, or conveyance upon such terms and conditions as will best promote their development and operation in the public interest. The Secretary is further authorized to investigate the need for acquiring other lands for said purposes and to report thereon to the Committees on Interior and Insular Affairs of the Senate and House of Representatives, but no lands shall be acquired solely for any of these purposes other than access to project lands and the maintenance of public health and safety and the protection of public property thereon without further authorization by the Congress. All costs incurred pursuant to this section shall be nonreimbursable and nonreturnable."

Section 3 of the bill deals with a preferred right on the part of customers in Trinity County to purchase a portion of the increased output of the Central Valley project made possible by the Trinity River development powerplants. If the San Luis unit is authorized, the energy available for commercial sale from the Central Valley project power system, even including a Government-built Trinity power development, will be decreased below its output without Trinity and San Luis. This decrease will result from the use of energy for San Luis pumping loads. In this circumstance, the preference expressed in section 3 of the bill will be meaningless. If, on the other hand, the San Luis unit is not constructed, there will be a significant increase in the amount of power available for commercial sale and the preference will be important. From an administrative viewpoint, the provision giving Trinity County preference customers a right to exercise an option to purchase project power in each successive fifth year upon

6 months' prior notice would impose restrictions on alternative sales to other markets at firm rates. The 6 months' notice provision should, we believe, be changed to not less than 30 months in order that interim purchasers of power could be provided adequate notice in which to arrange for power from alternative sources.

Section 4 of the bill would, in addition to authorizing appropriations for construction of the Trinity River development, provide that such appropriations and gross revenues from the development shall be available and used for in-lieu-of-tax payments to Trinity County and for payments to the county for certain additional costs of government, including police, school, hospital, and welfare facilities and for the repair, maintenance, and replacement of roads and establishment of new roads. We question the wisdom of some of the items and the desirability of imposing on the Trinity development terms more onerous than or different from those generally applying to other reclamation projects.

More particularly, it appears to us that the matter of payments to Trinity County in lieu of taxes should await consideration by the Congress of general legislation establishing Federal policy with respect to payments to States and local governments on account of real property and improvements thereon. Such legislation is proposed in various bills now pending before the Congress. It will be possible at that time to weigh the general question of the benefits of Federal construction activities to local communities against their added costs. Similarly, we question the provisions of section 4 insofar as they would charge to the Trinity River development, and thus to California water and power users, the cost of new roads that are not required for project purposes or to replace existing roads damaged or destroyed by the project. Such a requirement would extend the liability of the United States beyond the present requirements of law.

While, as has already been indicated, we are currently preparing a feasibility report on the San Luis unit and cannot recommend its authorization at this time, it may be helpful to your committee to have a sketch of our present information with respect to it.

Our studies to date indicate that, as an addition to the Central Valley project, the San Luis unit is feasible both from an engineering and financial viewpoint. Its water supply would be obtained in part from surplus winter flows of the Sacramento and San Joaquin Rivers that now waste into the ocean and in part from water made available as a result of the Trinity River diversion.

New Federal facilities as presently contemplated would consist of the San Luis Dam, Reservoir, and pumping plant, San Luis Canal, Pleasant Valley pumping plant, Pleasant Valley Canal, relift pumps, and necessary electric transmission system.

San Luis Reservoir, the principal storage facility for the San Luis unit, would be filled primarily by pumping water from the Delta-Mendota Canal during winter months. Water stored in San Luis Reservoir and pumped directly into San Luis Canal would be used to supply 440,000 acres of productive land on the west side of the San Joaquin Valley. Much of this area is now in urgent need of additional water supply because of the rapid lowering of existing ground-water supplies. Urgently needed municipal water would also be made available by this development.

It is currently estimated that the required Federal expenditure for the San Luis unit would amount to approximately \$229 million, all of which would be reimbursable. Through financial integration with the Central Valley project, the enlarged project would show payout of all reimbursable features within 50 years after completion of construction of the San Luis features.

We are informed that there is a particular urgency for your committee to have this report and that hearings on the Trinity River division will commence April 13. In view thereof, this report is being submitted prior to clearance through the Bureau of the Budget and we are not in a position to advise you concerning its relation to the program of the President.

Sincerely yours,

FRED G. AANDAHL,
Assistant Secretary of the Interior.

SUMMARY OF CONCLUSIONS AND RECOMMENDED ACTION

The Committee on Interior and Insular Affairs concludes that the Trinity River division, as it would be authorized by enactment of H. R. 4663, as amended, is physically and economically feasible, that it is urgently needed and that construction should be undertaken at the earliest possible date. The committee recommends that H. R. 4663, as amended, be enacted.]

- The House of Representatives passed H. R. 4663 on June 21, 1955, with an amendment offered from the floor by Congressman John Saylor, which limited payments to Trinity County, in connection with the Trinity River division, to certain additional costs of county roads and certain in-lieu tax payments.

Public Works 1956 Appropriation Act (69 Stat. 354), 1955

- On June 10 and July 1, 1955, respectively, the House Committee on Appropriations and the Senate Committee on Appropriations recom-

mended an allotment for the Trinity River Division with the following restrictions:

[Central Valley project.—* * * The sum recommended by the committee includes \$1 million, for initiation of construction on the Trinity River division of this project, which is to be obligated by the Department upon specific authorization of this Division by the Congress. * * * (House Report 747, 84th Cong. 1st session.)

Central Valley project, California.—* * * The program presented in the budget has been approved, and in addition the committee recommends the allowance of \$1 million for the construction of the Trinity River Division of the project. No part of the \$1 million is to be obligated for construction until the Trinity River Division has been specifically authorized by the Congress. However, planning, and pre-construction activities may be carried out with the funds provided. * * * (Senate Report 700, 84th Cong., 1st Session).]

Senate Report No. 1154, 84th Cong., 1955

● On July 27, 1955, Senate Report 1154 recommended passage of H. R. 4663 (S. Rept. No. 1154, 84th Cong.):

[AUTHORIZING THE SECRETARY OF THE INTERIOR TO CONSTRUCT, OPERATE, AND MAINTAIN THE TRINITY RIVER DIVISION, CENTRAL VALLEY PROJECT, CALIFORNIA, UNDER FEDERAL RECLAMATION LAWS

The Committee on Interior and Insular Affairs, to whom was referred the bill (H. R. 4663) authorizing the Secretary of the Interior to construct, operate, and maintain the Trinity River division, Central Valley project, California, under Federal reclamation laws, having considered the same, report favorably thereon and recommend that the bill do pass.

PURPOSE OF THE BILL

H. R. 4663 proposes to reauthorize the Trinity division of the Central Valley project, California, to provide for modifications in both the physical features and operations of the division by the Secretary of the Interior through the Bureau of Reclamation. The primary purpose of the division is to meet the most urgent need for additional irrigation water in the Sacramento and San Joaquin River Basins, and for the additional purpose of supplying electric energy integrated with the existing Central Valley power system to meet the expanding power needs of northern California and assist in repaying irrigation costs beyond the ability of water users to repay.

STATEMENT OF POLICY

The committee suggests special attention to the following proviso, on page 2, beginning on line 13, of the bill:

Provided, That the Secretary is authorized and directed to continue to a conclusion the engineering studies and negotiations with any non-Federal agency with respect to proposals to purchase falling water and, not later than eighteen months from the date of enactment of this Act, report the results of such negotiations, including the terms of a proposed agreement, if any, that may be reached, together with his recommendations thereon, which agreement, if any, shall not become effective until approved by Congress.

In retaining this proviso in the bill, the committee states the following policy considerations as reflecting its conclusions with respect to the authorization and direction to the Secretary of the Interior set forth therein:

1. The engineering studies to be concluded should include (a) the proposed revisions in certain features to increase the power-generating potential to determine their effect on the basic concept of the Trinity division for increasing irrigation water supplies for the Central Valley project; (b) the feasibility of the increased capacity engineeringwise, economically and financially, for Federal installation and operation integrated with the Central Valley project, including the increased revenue and any other pertinent factors for purposes of comparison.
2. The inclusion of the proviso in the bill is in no respect to be considered a commitment on the part of the Congress to the sale of falling water or to any arrangement other than that of construction and operation of the entire project, including the power features, by the United States as authorized in the bill.
3. The proviso is in no sense to be understood as an authorization to waive, in any negotiation for the sale of falling water, any preference in the sale or transmission of power as expressed in section 5 of the Flood Control Act of 1944, in the Reclamation Project Act of 1939 or in any other law.
4. The negotiations referred to shall not be confined to any one non-Federal agency and either publicly owned or privately owned utilities shall have the opportunity to present proposals as the basis for negotiations.
5. The studies and reports are to be objective and factual without any preconceived result being sought. Any report or recommendation of the Secretary to Congress shall be accompanied by basic engineering, financial, or other technical reports, together with the findings of responsible officials of the Bureau of Reclamation, untrammelled by questions of high policy to be recommended to or considered by the

Congress. The committee expects to be advised currently of the progress of the studies, reports, and findings as completed, and the progress of negotiations.

The committee concludes that, on the basis of the expert testimony at its hearing, that the Trinity division is feasible, from an engineering, economic, and financial standpoint, as proposed to be integrated with the Central Valley project for power and irrigation water purposes. It is in line with the California State water plan, adopted nearly 25 years ago. Therefore, any proposal that Congress should authorize a departure from the long-standing concept of federally constructed and operated multiple-purpose projects that have been found feasible by established standards will be carefully scrutinized.

PROPOSAL OF PACIFIC GAS & ELECTRIC CO.

The committee heard a statement from the Pacific Gas & Electric Co. whereby the company offered to purchase or lease the falling water to be developed by the Trinity project for the purpose of the production of power, to construct the power facilities and pay the Federal Government annually a stipulated price. The power company's proposal was predicated on certain readjustments of the physical plan of the project so that the power-generating capacity would be substantially increased.

The same, or a similar, proposal had been submitted to the Department of the Interior which has stated that it is not in a position to make a final recommendation, pending the completion of engineering and economic studies, as well as negotiations incident to consideration of the proposal which have not been completed. It was in recognition of the proposal of the Pacific Gas & Electric Co. that the committee retained the proviso referred to heretofore in this report and which prompted the statement of policy hereinbefore set forth.

BACKGROUND OF PRESENTLY PROPOSED BILL

The Trinity River division was authorized under the Reclamation Project Act of 1939 by a finding of feasibility filed by Secretary of the Interior Oscar L. Chapman on January 2, 1953, with clearance from the President, Harry S. Truman. On February 7, 1955, Secretary of the Interior Douglas McKay approved the Trinity River project and recommended its construction in a supplemental report. The Commissioner of Reclamation, W. A. Dexheimer, in testimony before both the House and Senate Committees on Interior and Insular Affairs, recommended immediate initiation of construction of the Trinity project. The State engineer of California, commenting officially on the project under date of April 9, 1953, approved the project report

of the Bureau of Reclamation and urged immediate authorization and construction. Hon. Goodwin Knight, Governor of California, wired the Senate Committee on Interior and Insular Affairs, as he had done similarly to the House committee, reaffirming the official position of the State of California in support of the immediate initiation of construction of the Trinity division.

In the Public Works Appropriation Act for fiscal year 1956, there was included \$1,000,000 in the construction and rehabilitation item for the Bureau of Reclamation to initiate construction of the Trinity division as soon as Congress authorized the work. Full disclosure of the Trinity division data had been made to both the House and Senate Appropriations Committees. This presentation was the basis for the rather unusual action in making an appropriation for construction before reauthorization legislation was completed. The budget estimates for fiscal year 1956 had included an additional \$400,000 for continuing advance planning of the Trinity division on which the Bureau of Reclamation, since 1942, had expended a total of \$572,000.

HISTORY OF TRINITY DEVELOPMENT

Intense study of the Trinity development has been carried on by various agencies of the State of California, as well as the Federal Power Commission and the Bureau of Reclamation. The California State water plan, adopted in 1931, included the Trinity development. The Bureau of Reclamation in the early forties began an intensive study looking to authorization and construction of the division. A feasibility report, completed in 1951, was the basis of the finding of Secretary of the Interior Chapman, authorizing the development as a division of the Central Valley project. H. R. 4663 embodies the Trinity features originally embraced in S. 178, sponsored in the Senate by Senators Knowland and Kuchel. S. 178 also proposed the authorization of the San Luis west side division in the San Joaquin Valley, but by reason of delayed completion of the project report on the San Luis development, hearings and action were deferred without prejudice, and the committee recommends the enactment of H. R. 4663, relating only to the Trinity phases of the Central Valley project.

Certain modifications in the physical plan for the development of the Trinity River division have resulted from more detailed investigations subsequent to the original authorization in 1952. The basic features of the original plan are retained, but the recommended proposal includes recent modifications recommended by the Department of the Interior, together with resulting changes in the project's economic and repayment aspects, as described in the Department's supplemental report under date of July 1954. In addition to authorizing the plan of development now recommended by the Department, H. R. 4663 sets

out certain operating requirements for the protection of existing water and other rights. It also provides for financial assistance to Trinity County in connection with meeting costs that are anticipated to result from construction activities in the area.

TRINITY DIVISION URGENTLY NEEDED

Additional water sources are required to provide a firm supply for the Central Valley project as presently authorized and under construction, as well as for contemplated expansion. The tremendous increase in population in the State of California, together with expanding demands for agricultural products produced under irrigation in the State, have accentuated the need for additional irrigation water supplies that have been developing rapidly. To meet this critical situation, immediate construction of the Trinity project must be undertaken.

While the committee at this time did not consider the San Luis west side development in the San Joaquin Valley, it does recognize that the water situation in that area has already reached a critical stage that is threatening the agricultural economy of this vital sector. A portion of the Trinity water is proposed to be used in this area where an alarming recession in the ground water table has increased water costs. Even pumping with ground lifts has not removed the threat to substantial areas which will undoubtedly go out of production in a few years unless additional water for irrigation is brought into that area.

DESCRIPTION OF THE TRINITY DIVISION

In Trinity and Shasta Counties in northwestern California, the Trinity River division consists of Trinity Dam, Reservoir, and powerplant; Lewiston diversion dam, reservoir, and powerplant; Tower House tunnel, powerplant, and diversion dam; and Matheson tunnel and powerplant. The purpose of the division is the diversion of water from the Trinity River Basin into the Sacramento River Basin of the Central Valley. The major storage facility would be Trinity Reservoir on the Trinity River, with a capacity of 2,500,000 acre-feet. A short distance downstream from Trinity Reservoir, Lewiston Reservoir would reregulate the flows from Trinity Reservoir eastward through Tower House tunnel and for downstream uses, primarily for fish purposes. The water from Trinity Reservoir would be diverted into Clear Creek through Tower House tunnel and Tower House powerplant. On Clear Creek, just below the powerplant, Tower House diversion dam would divert water through Matheson tunnel into Matheson powerplant and thence into the existing Keswick Reservoir on the Sacramento River. The authorization of these works would also include irrigation facilities to serve approximately 20,000 acres east of Redding.

Operation of the Trinity River division would be coordinated with that of other features of the Central Valley project, and would be physically integrated with that project. An average of 704,000 acre-feet of Trinity River water would be diverted annually to the Sacramento River Basin under the plan of development and operation of this project. When coordinated with the operation of the Central Valley project system, this amount would provide about 1,190,000 acre-feet of water for additional use in the Central Valley. About 665,000 acre-feet of this amount would be used annually to meet the ultimate needs of the Sacramento canals service area, which comprise approximately 200,000 acres, and about 525,000 acre-feet annually would be available for use on land of the west side of the San Joaquin Valley. Two hundred and thirty-three thousand kilowatts of installed hydroelectric power capacity proposed in the plan would increase the Central Valley project energy by over 1 billion kilowatt-hours annually.

An asset to the Trinity River Basin, as well as to the whole north coastal area, are the fishery resources of the Trinity River. The development of the Trinity River was planned with a view to maintaining and improving fishery conditions. The legislation sets out minimum flows to be maintained below the Trinity diversion point and below the Clear Creek diversion point, and requires that the project be operated so as to insure the preservation and propagation of fish and wildlife.

The committee notes that the transmountain diversion of water from the Trinity River Basin to the Central Valley has the approval of the State of California. The findings of both the State of California and the Bureau of Reclamation are that water surpluses to the present and future requirements of the Trinity and Klamath Basins are available for diversion in the volume proposed in the Trinity division plan. This water can be diverted from the Trinity River to the Central Valley without detrimental effect on the fishery resources. While final studies have not been completed to determine precisely the future water requirements in the Klamath River Basin, the committee concurs in the view expressed on page 5 of the House Committee Report No. 602 that it is not necessary to await conclusions in this respect before authorizing construction of the Trinity division because of the relatively limited diversions planned compared to the average volume of water wasting to the Pacific Ocean from the basin each year.

ECONOMIC ASPECTS

The estimated cost of the Trinity River division including power installations and irrigation facilities east of Redding are approximately \$225 million. With the exception of proposed allocation of

\$215,000 for recreational facilities and \$47,000 for fish protection, the entire amount would be reimbursable. Of the allocations to reimbursable features, upward of \$68 million is assigned to irrigation and \$156.5 million to power.

The Trinity River division would be integrated financially, as well as in the operation of the power and irrigation facilities, with the authorized features of the Central Valley project. The repayment plan provides that the power allocations would be completely repaid with interest within 26 years, or by 1988, after the last power unit is placed in operation. The entire amount of the reimbursable costs allocated to irrigation is to be repaid within 50 years, including any development period.

Economic analysis of the proposed Trinity division shows that the development would be outstanding from an economic standpoint. Primary benefits are in the ratio of 1.86 to 1. The benefit-cost ratio, when indirect benefits are included, is 3.31 to 1.

ASSISTANCE TO TRINITY COUNTY

The United States owns approximately 90 percent of the land area in Trinity County. The limited resources of the county government, the committee finds, would be heavily taxed as a result of construction activities by the United States. The county would unquestionably be heavily burdened by construction activities in the area and there would also be loss of tax revenues. In recognition of this prospective situation, H. R. 4663 authorizes payments to Trinity County for additional costs attributable to the construction activities in connection with the Trinity division, and also authorizes an annual in-lieu repayment equal to the loss of taxes to the county.

ANALYSIS OF THE BILL

Section 1 outlines the purpose and scope of the measure, including the construction features to be authorized. Modification in the conveyance-system plan, including storage on Clear Creek, would be permitted if final investigations indicate the project's feasibility would be improved, and development of additional lands in Shasta County permitted. As heretofore pointed out the power facilities are authorized to be constructed by the Federal Government, although as stated there is a proviso which authorizes and directs the Secretary of the Interior to continue and bring to a conclusion negotiations with the Pacific Gas & Electric Co. with respect to its proposal for the purchase of falling water. The language is sufficiently broad to permit negotiations with any other public or private utility company that might desire to make the proposal. Congressional approval

and authorization of any agreement is required. In the meantime, construction of the facilities should proceed to the extent that funds are available and, in the absence of congressional approval, installation of the power facilities would proceed. Section 2 provides for the integration and coordination of the Trinity division with other features of the Central Valley project both from a financial and operational standpoint. In project operation section 2 requires the Secretary of the Interior to adopt appropriate measures for the protection and propagation of fish and wildlife. Minimum flow requirements during certain months of the year to achieve these results are set forth. Nonreimbursable allocations of cost to the preservation and propagation of fish and wildlife are provided. In section 3 the Secretary of the Interior is authorized to provide and operate minimum basic facilities for recreation and other related purposes. It also authorizes the Secretary to withdraw public lands necessary for construction of the division and to dispose of these lands to Federal State, or local governmental agencies upon terms and conditions that will best permit their development. No lands, however, may be acquired solely for the purpose of the development except for access to public lands, the maintenance of public health and safety, and the protection of public property, with the further authorization by Congress. Costs incident to constructing and operating these basic facilities would be nonreimbursable.

Section 4 of the bill provides for marketing the electric energy attributable to the Trinity River division in accordance with the power preferences expressed in Federal reclamation laws, except that a first preference to the extent of 25 percent of the energy is given to preference customers in Trinity County. These Trinity County preference customers may exercise their right to this energy when it first becomes available or upon the same date in each successive fifth year thereafter, providing they give written notice of their intention to take the energy not less than 18 months prior to said date.

Section 5 of the bill authorizes payments to Trinity County of additional costs of government incurred during the period of construction that are attributable to the construction activities in the area, including the cost for (1) police, hospital, and welfare facilities; (2) repair, maintenance, and replacement of existing roads; and (3) establishment of new roads. Section 5 also authorizes the Secretary to pay to Trinity County annually an in-lieu taxpayment equal to the loss in taxes to Trinity County from real property and improvements taken for project purposes.

Section 6 of the bill sets out the amount authorized to be appropriated for construction of the Trinity River division.

EXECUTIVE REPORTS

A report of the Department of the Interior on the Trinity River division is included in its report on S. 178, dated May 4, 1955. This bill, when introduced as a companion measure to H. R. 105 undertook to authorize both the Trinity River division and the San Luis unit of the West San Joaquin development of the Central Valley project. The report on S. 178 is considered as the Department's report on H. R. 4663 so far as it pertains to the Trinity River division of the Central Valley project.

Comments of the Bureau of the Budget, dated January 27, 1955, follow the report of the Department of the Interior.

The Interior Department report is as follows:

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., May 4, 1955.

HON. JAMES E. MURRAY,
*Chairman, Committee on Interior and Insular Affairs,
United States Senate, Washington, D. C.*

MY DEAR SENATOR MURRAY: You have requested a report from this Department on S. 178, a bill to authorize the Secretary of the Interior to construct, operate, and maintain as additions to the Central Valley project, California, the Trinity River division and the San Luis unit of the West San Joaquin division.

As an interim response to this request, there are enclosed copies of our proposed report on the Trinity River division, Central Valley project, California, dated January 19, 1955, and of two attachments to that report entitled "Supplementary Report, Trinity River Division, Central Valley Project, California" and "Addendum to Supplementary Report * * * Trinity River Division, Central Valley Project, California" dated March 1954, and January 1955, respectively. These documents are now before officials of the States of California and Oregon and of various Federal agencies for review. After their review has been completed and the comments received have been considered here, we will be in a position to advise you more fully than we now can with respect to the Trinity River division portion of S. 178. Our final report on the portion of the bill dealing with the San Luis unit of the West San Joaquin division of the project will necessarily be somewhat further delayed. A planning report on that development is now in preparation. Until it has been completed and reviewed by the State of California and by interested Federal agencies, we will not be in a position to do more than furnish a sketch of this proposed development to your committee.

The physical plan for development of the Trinity River division is set forth in the attached report thereon. It is unnecessary, therefore, to repeat it here. Suffice it to say that the works which would be authorized if S. 178 is enacted in its present form are, for the most part, those contemplated in our report. One exception is the Redding-Cow Creek works covered in S. 178, page 2, lines 16-22. Detailed investigations on the feasibility of these proposed works have not been made. We can only report at this time that such studies as have been made indicate that to provide water service to the area involved at a price the water users could afford to pay would require a considerable but as yet indeterminate amount of financial assistance. Another possible exception is the single-purpose hydroelectric works of the Trinity division. A firm conclusion has not yet been reached on the relative merits of Federal construction and of non-Federal construction of these works. If it should be concluded that it would be more desirable for these works to be undertaken by a non-Federal agency than by the Government, or to leave the question of the proper construction agency to be decided later, the text of S. 178 could be amended accordingly.

The need for the additional water supplies which construction of the Trinity division, either under its existing authorization (H. Doc. 53, 83d Cong.) or under the enlarged authorization contemplated in S. 178 and in our report of January 19, is emphasized by the congressional authorization of the Sacramento Valley canals as part of the Central Valley project (act of September 26, 1950, 64 Stat. 1036). It is anticipated that full development of the Sacramento canals unit, which is now under construction, will require diverted Trinity River division water. This was pointed out in the Department's report on the unit (H. Doc. 73, 83d Cong.) wherein it was stated that " * * * the Trinity River division works are required as a physical means of providing the water supply needed over the long run for the Sacramento canals unit" (p. vii) and that " * * * the Sacramento canals unit has engineering feasibility on the basis that the Trinity River division, upon which the canals unit is dependent for a firm water supply * * * will be authorized and constructed" (p. xi). In addition the importance of imported water to the San Joaquin River Basin, where large areas are experiencing an alarming drop in the ground water table as a result of pumping, cannot be overemphasized.

The following listing shows those facilities which in the presently proposed plan are different from the plan on which the existing authorization was based. All features not listed are essentially the same under the two plans.

Feature	New plan	Previous plan
Trinity Reservoir capacity ----- acre-feet--	2, 500, 000	1, 800, 000
Trinity powerplant, installed capacity kilowatts-----	90, 000	75, 000
Steam plant and subsidiary transmission facilities kilowatts--	None	70, 000

The changes in the facilities from those previously recommended have resulted from additional information and from suggestions made by public agencies which commented on the earlier report. On an average annual basis, the somewhat expanded plan would divert 704,000 acre-feet of Trinity River water to the Sacramento River Basin. When coordinated with the Central Valley project system, it would provide 1,190,000 acre-feet for additional use in the Central Valley project. (Comparable figures for the previous plan are 660,000 acre-feet and 1,010,000 acre-feet, respectively.) Of these 1,190,000 acre-feet, 665,000 acre-feet would be used to meet the ultimate needs of 205,400 net acres in the authorized Sacramento canals unit of the Central Valley project and 525,000 acre-feet would be available for use on other lands in the Central Valley such as those of the potential San Luis unit. The new total installed hydroelectric power capacity contemplated by S. 178 and our report would be 233,000 kilowatts as compared to 218,000 kilowatts under the old plan. It is expected that this larger installed capacity of 233,000 kilowatts will increase the Central Valley project energy by 1,067 million kilowatt-hours annually.

The Trinity River division would be integrated physically and financially with the Central Valley project. All reimbursable costs would be repaid within 50 years after the last feature of the division is constructed. The estimated cost of the Trinity River division based on January 1954 prices, is \$219,280,000, assuming that the Federal Government builds the power facilities. Under the alternative plan for non-Federal construction of these facilities, the Government's cost of constructing the Trinity River division is estimated at approximately \$154,400,000. Substantially these entire amounts would be reimbursable. Both of them include \$215,000 for minimum recreation facilities which we recommended be provided at Trinity and Lewiston Reservoirs but they do not include the amounts required for the acquisition of approximately 1,200 acres of land adjacent to the reservoir areas primarily for recreation purposes and principally in connection with the provision of the minimum facilities. They also include \$47,000 for fish protection facilities. Both of these items should be treated as nonreimbursable. Further consideration will be given to the fish and wildlife allocation at the time of preparation of the definite plan

report in light of the applicable policies and provisions of the act of August 14, 1946 (60 Stat. 1080).

Public hearings have disclosed the large majority of California interests recognize the value of adding the Trinity River division to the Central Valley project and are anxious that the division be constructed. The few opposed interests who reside downstream in the Klamath River Basin are concerned over their future water needs. Our studies, however, indicate that the proposed diversion would utilize only a small percentage of the water now wasting into the Pacific Ocean from the Klamath River watershed. These studies also disclose that the relatively small amount of water that would be diverted would not affect future development of either the Trinity River Basin or the Klamath River Basin downstream since water in those areas would be more than adequate to satisfy future needs. The Trinity division's ratio of primary benefits to total cost is 1.86 to 1. Total benefits resulting from the development would outweigh the cost in a ratio of 3.31 to 1.

The fishery resources of Trinity River are an asset to the Trinity River Basin as well as the whole northern coastal area. Accordingly, the Trinity River development has been and should be planned with a view to maintaining and improving fishery conditions. The schedule of water releases for Trinity River flow below Lewiston diversion dam and for Clear Creek flow below Tower House diversion dam used in House Document No. 53, 83d Congress, was recommended by the Fish and Wildlife Service and accepted by this Department. House Document No. 147, 83d Congress, indicates that the California Department of Fish and Game concurs, in substance, in that recommendation.

The flows set out in House Document No. 53, however, are not the same as those prescribed in section 2 of S. 178. The flow schedule proposed by the Fish and Wildlife Service is predicated on the seasonal needs of the fishery resources. Since flows should vary in accordance with estimated requirements, the Service-proposed flow schedule is preferable to the flat minimum flow requirement for the months of July through November below Lewiston diversion dam prescribed in S. 178, and it is desirable that the minimum flows adopted by the Department for other periods of the year be incorporated in the legislation. Room should also be left in any legislation that is enacted for modification in the light of experience. Since the Secretary of the Interior will necessarily be charged with overall responsibility for the project, including particularly its financial aspects, it is our belief that it must also be his responsibility to determine, in accordance with statutory standards laid down by Congress and after consultation with appropriate State officials, what modification, if any, should be

made. We suggest, therefore, that the language of the proviso beginning on page 3, line 23, of the bill be modified to read as follows:

Provided, That the Secretary is authorized and directed to adopt, with respect to the Trinity River division, measures which, in his judgment, are appropriate to insure the preservation and propagation of fish and wildlife including, but not limited to, the maintenance of the flow of the Trinity River below Lewiston diversion dam and the flow of Clear Creek below Tower House diversion dam in accordance with schedules set forth on pages 77 and 79 of House Document Numbered 53, Eighty-third Congress, unless, after consultation with the California Fish and Game Commission, he determines that different flows would be adequate for maintenance of fish life and the propagation thereof. The Secretary shall allocate to the preservation and propagation of fish and wildlife an appropriate share of the cost of constructing the Trinity River development, as provided in the Act of August 14, 1946 (60 Stat. 1080), and of operating and maintaining the same, such costs to be nonreimbursable and nonreturnable.

In view of the inclusion of basic recreational facilities in the Trinity River plan, it is suggested that a new section be added to S. 178 after its present section 3 to read as follows:

SEC. —. The Secretary is authorized to investigate, plan, construct, operate, and maintain minimum basic facilities for access to, and for the maintenance of public health and safety and the protection of public property on, lands withdrawn or acquired for the development of the Trinity River division and the San Luis unit projects, to conserve the scenery and the natural, historic, and archeologic objects, and to provide for public use and enjoyment of the same and of the water areas created by these developments by such means as are consistent with their primary purposes. The Secretary is authorized to withdraw from entry or other disposition under the public land laws such public lands as are necessary for the construction, operation, and maintenance of said minimum basic facilities and for the other purposes specified in this section and to dispose of such lands to Federal, State, and local governmental agencies by lease, transfer, exchange, or conveyance upon such terms and conditions as will best promote their development and operation in the public interest. The Secretary is further authorized to investigate the need for acquiring other lands for said purposes and to report thereon to the Committees on Interior and Insular Affairs of the Senate and House of Representatives, but no lands shall be acquired solely for any of these purposes other than access to project lands and the maintenance of public health and safety and the protection of public property thereon without further authori-

zation by the Congress. All costs incurred pursuant to this section shall be nonreimbursable and nonreturnable.

Section 3 of the bill deals with a preferred right on the part of customers in Trinity County to purchase a portion of the increased output of the Central Valley project made possible by the Trinity River development powerplants. If the San Luis unit is authorized, the energy available for commercial sale from the Central Valley project power system, even including a Government-built Trinity power development, will be decreased below its output without Trinity and San Luis. This decrease will result from the use of energy for San Luis pumping loads. In this circumstance, the preference expressed in section 3 of the bill will be meaningless. If, on the other hand, the San Luis unit is not constructed, there will be a significant increase in the amount of power available for commercial sale and the preference will be important. From an administrative viewpoint, the provision giving Trinity County preference customers a right to exercise an option to purchase project power in each successive fifth year upon 6 months' prior notice would impose restrictions on alternative sales to other markets at firm rates. The 6 month's notice provision should, we believe, be changed to not less than 30 months in order that interim purchasers of power could be provided adequate notice in which to arrange for power from alternative sources.

Section 4 of the bill would provide that appropriations for construction of the Trinity River development and gross revenues from the development shall be available and used for in-lieu-of-tax payments to Trinity County and for payments to the county for certain additional costs of government, including police, school, hospital, and welfare facilities and for the repair, maintenance, and replacement of roads and establishment of new roads. We question the wisdom of some of the items and the desirability of imposing on the Trinity development terms more onerous than or different from those generally applying to other reclamation projects.

More particularly, it appears to us that the matter of payments to Trinity County in lieu of taxes should await consideration by the Congress of general legislation establishing Federal policy with respect to payments to States and local governments on account of real property and improvements thereon. Such legislation is proposed in various bills now pending before the Congress. It will be possible at that time to weigh the general question of the benefits of Federal construction activities to local communities against their added costs. Similarly, we question the provisions of section 4 insofar as they would charge to the Trinity River development, and thus to California water and power users, the cost of new roads that are not required for project purposes or to replace existing roads damaged or destroyed by the project.

In the absence of such final reports from the Secretary of the Interior, the Bureau of the Budget is not in a position to make a satisfactory evaluation of these projects at this time. Therefore, it is recommended that the committee take no action on S. 178 until project reports have been submitted to the committee under the established procedures.

Sincerely yours,

DONALD R. BELCHER, *Assistant Director.*

INDIVIDUAL VIEWS OF SENATOR RICHARD L. NEUBERGER
ON H. R. 4663

During consideration of this bill by the committee, I was granted permission to submit this separate concurring report endorsing the authorization of the Trinity River division of the Central Valley project. My purpose in doing this is specifically to record and emphasize the intent of the committee that this development be undertaken with strict adherence to the reclamation laws.

It is my belief that the Trinity River division is a worthwhile and beneficial addition to the Central Valley project if constructed, operated, and maintained within the framework of traditional time-tested reclamation laws. Only on this basis have I supported it. However, I wish to record unequivocally that this support has been based entirely upon the committee's agreement that the language of this bill constitutes no infringement on or deviation from the antimonopoly policy of these laws, and the protection and preference which they provide for public power agencies. The committee has agreed that the bill intends no endorsement of any vague or undefined "partnership" proposals having to do with the generation, transmission, or distribution of electrical energy, and only with this understanding, do I feel free to give my support to it.

During committee consideration, considerable attention was given to the intent and significance of the proviso language in section 1 authorizing and directing the Secretary of Interior to continue to a conclusion studies and negotiations with regard to the sale of falling water to a non-Federal agency, and stipulating that any such agreement would be without effect until and unless approved by Congress.

It was explained and agreed upon by all members of the committee participating, including the sponsor of the bill, that the effect of this language was to preserve the public power preference sections of reclamation laws and to prevent the Secretary of Interior or any other Federal official from selling, without express congressional authorization, the power privileges or falling water of the Trinity development to any non-Federal agency, with specific reference to the Pacific Gas & Electric Co. This company has indicated its desire to effect such an arrangement.

I would oppose such a sale in the event of its recommendation to the Congress by the Secretary of Interior, on the grounds that it would be against the public interest and a violation of reclamation law intent and philosophy, developed by a half century of congressional action. With the specific assurance of the committee and sponsor of the proposal as to the intent of the language to protect and preserve existing law and policy, including the public power preference clause, and the recording of that intent in this separate concurring report as well as in the committee report itself, I am joining the committee in recommending to the Senate that this Federal development be authorized.

RICHARD L. NEUBERGER.]

*Trinity River Act (Act of August 12, 1955; 69 Stat. 719),
1955*

• With Senate passage of the bill on July 30, 1955, and signature by the President on August 12, legislative action was completed. The Trinity River Act enacted as Public Law 386, 84th Cong. (69 Stat. 719) is quoted:

[An Act to authorize the Secretary of the Interior to construct, operate, and maintain the Trinity River division, Central Valley project, California, under Federal reclamation laws.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, for the principal purpose of increasing the supply of water available for irrigation and other beneficial uses in the Central Valley of California, the Secretary of the Interior, acting pursuant to the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto), is authorized to construct, operate, and maintain, as an addition to and an integral part of the Central Valley project, California, the Trinity River division consisting of a major storage reservoir on the Trinity River with a capacity of two million five hundred thousand acre-feet, a conveyance system consisting of tunnels, dams, and appurtenant works to transport Trinity River water to the Sacramento River and provide, by means of storage as necessary, such control and conservation of Clear Creek flows as the Secretary determines proper to carry out the purposes of this Act, hydroelectric powerplants with a total generating capacity of approximately two hundred thirty-three thousand kilowatts, and such electric transmission facilities as may be required to deliver the output of said powerplants to other facilities of the Central Valley project and to furnish energy in Trinity County: *Provided,* That the Secretary is authorized and directed to continue to a conclusion the engineering studies and negotiations with any

non-Federal agency with respect to proposals to purchase falling water and, not later than eighteen months from the date of enactment of this Act, report the results of such negotiations, including the terms of a proposed agreement, if any, that may be reached, together with his recommendations thereon, which agreement, if any, shall not become effective until approved by Congress. The works authorized to be constructed shall also include a conduit or canal extending from the most practicable point on the Sacramento River near Redding in an easterly direction to intersect with Cow Creek, with such pumping plants, regulatory reservoirs, and other appurtenant works as may be necessary to bring about maximum beneficial use of project water supplies in the area.

SEC. 2. Subject to the provisions of this Act, the operation of the Trinity River division shall be integrated and coordinated, from both a financial and an operational standpoint, with the operation of other features of the Central Valley project, as presently authorized and as may in the future be authorized by Act of Congress, in such manner as will effectuate the fullest, most beneficial, and most economic utilization of the water resources hereby made available: *Provided*, That the Secretary is authorized and directed to adopt appropriate measures to insure the preservation and propagation of fish and wildlife, including, but not limited to, the maintenance of the flow of the Trinity River below the diversion point at not less than one hundred and fifty cubic feet per second for the months July through November and the flow of Clear Creek below the diversion point at not less than fifteen cubic feet per second unless the Secretary and the California Fish and Game Commission determine and agree that lesser flows would be adequate for maintenance of fish life and propagation thereof; the Secretary shall also allocate to the preservation and propagation of fish and wildlife, as provided in the Act of August 14, 1946 (60 Stat. 1080), an appropriate share of the costs of constructing the Trinity River development and of operating and maintaining the same, such costs to be nonreimbursable: *Provided further*, That not less than 50,000 acre-feet shall be released annually from the Trinity Reservoir and made available to Humboldt County and downstream water users.

SEC. 3. The Secretary is authorized to investigate, plan, construct, operate, and maintain minimum basic facilities for access to, and for the maintenance of public health and safety and the protection of public property on, lands withdrawn or acquired for the development of the Trinity River division, to conserve the scenery and the natural, historic, and archeologic objects, and to provide for public use and enjoyment of the same and of the water areas created by these developments by such means as are consistent with their primary

other disposition under the public land laws such public lands as are necessary for the construction, operation, and maintenance of said minimum basic facilities and for the other purposes specified in this section and to dispose of such lands to Federal, State, and local governmental agencies by lease, transfer, exchange, or conveyance upon such terms and conditions as will best promote their development and operation in the public interest. The Secretary is further authorized to investigate the need for acquiring other lands for said purposes and to report thereon to the Committees on Interior and Insular Affairs of the Senate and House of Representatives, but no lands shall be acquired solely for any of these purposes other than access to project lands and the maintenance of public health and safety and the protection of public property thereon without further authorization by the Congress. All costs incurred pursuant to this section shall be nonreimbursable and nonreturnable.

SEC. 4. Contracts for the sale and delivery of the additional electric energy available from the Central Valley project power system as a result of the construction of the plants herein authorized and their integration with that system shall be made in accordance with preferences expressed in the Federal reclamation laws: *Provided*, That a first preference, to the extent of 25 per centum of such additional energy, shall be given, under reclamation law, to preference customers in Trinity County, California, for use in that county, who are ready, able and willing, within twelve months after notice of availability by the Secretary, to enter into contracts for the energy: *Provided further*, That Trinity County preference customers may exercise their option on the same date in each successive fifth year providing written notice of their intention to use the energy is given to the Secretary not less than eighteen months prior to said date.

SEC. 5. The Secretary is authorized to make payments, from construction appropriations, to Trinity County, California, of such additional costs of repairing, maintaining, and constructing county roads as are incurred by it during the period of actual construction of the Trinity River division and as are found by the Secretary to be properly attributable to and occasioned by said construction. The Secretary is further authorized and directed to pay to Trinity County annually an in-lieu tax payment out of the appropriations during construction and from the gross revenues of the project during operation an amount equal to the annual tax rate of the county applied to the value of the real property and improvements taken for project purposes in Trinity County, said value being determined as of the date such property and improvements are taken off the tax rolls. Payments to the public-school districts in the project area affected by construction activities shall be made pursuant to existing law.

SEC. 6. There are hereby authorized to be appropriated for construction of the Trinity River division \$225,000,000, plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuations in construction costs as indicated by engineering cost indexes applicable to the type of construction involved herein, and, in addition thereto, such sums as may be required to carry out the provisions of section 5 of this Act and to operate and maintain the said development.

Approved August 12, 1955.]

Report of the Secretary of the Interior (H. Doc. 281, 84th Cong.), 1955

● Acting Secretary of the Interior Fred G. Aandahl, by letter of November 1, 1955, transmitted to the Congress a supplemental report on the Trinity River Division. It is printed as House Document No. 281, 84th Congress, 2d Session. Excerpts follow:

[LETTER OF TRANSMITTAL

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., November 1, 1955.

HON. SAM RAYBURN,
Speaker of the House of Representatives,
Washington, D. C.

MY DEAR MR. SPEAKER: My report on the Trinity River division, Central Valley project, California, is transmitted herewith pursuant to the provisions of section 9 (a) of the Reclamation Project Act of 1939 (53 Stat. 1187). This report supplements the report of the Department of the Interior on the Trinity River division which was printed as House Document 147, 83d Congress. The proposed addition to the Central Valley project described in the attached report was authorized by Public Law 386, 84th Congress.

The general plan, which is similar to that presented in House Document 147, is to divert water from the Trinity River to the Sacramento River Basin in California. As a result, Central Valley project water supplies would be increased by over a million acre-feet. Along the diversion route hydroelectric power would be generated by taking advantage of the difference in elevation of the two river basins.

The estimated cost, if fully developed by the Federal Government, is \$219,282,000 based on January 1954 prices which are essentially the same as current prices. If the power facilities are developed by a non-Federal agency, as discussed in the enclosures, the total Federal investment would be reduced. In accordance with the authorizing legislation studies are currently underway to determine necessary

additional details concerning non-Federal development of the hydroelectric potential.

Copies of this Department's proposed report were transmitted to the States of California and Oregon, and to the agencies represented on the Interagency Committee on Water Resources for comments. Comments have been received from all to which the report was sent and copies are enclosed.

The report and copies of all comments were transmitted to the President. Enclosed is a copy of the letter of comments of September 29, 1955, from Assistant Budget Director Percy Rappaport.

Sincerely yours,

FRED G. AANDAHL,
Acting Secretary of the Interior.

COMMENTS FROM THE BUREAU OF THE BUDGET

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D. C., September 29, 1955.

The honorable the SECRETARY OF THE INTERIOR.

MY DEAR MR. SECRETARY: Receipt is acknowledged of your letter dated July 12, 1955, submitting your report on the Trinity River division, Central Valley project, California, and requesting advice as to its relationship to the program of the President. This report modifies and brings up to date a previous plan for the Trinity River division, which was authorized under a secretarial finding of feasibility sent to the Congress on January 2, 1953, and printed as House Document 53, 83d Congress.

Construction of Trinity development was reauthorized by Public Law 386, approved August 12, 1955. The act authorizes and directs the Secretary to continue to a conclusion the engineering studies and negotiations with any non-Federal agency with respect to proposals to purchase falling water and, not later than 18 months from the date of enactment of the act, to report the results of such negotiations, including the terms of any agreement, which shall not be effective until approved by Congress. An amount of \$1 million was made available in the Public Works Appropriation Act, 1956, to initiate construction of the project works.

The Interior plan as outlined in your letter of July 12, 1955, would provide (a) a multiple-purpose dam and reservoir of 2,500,000 acre-foot capacity, (b) a conveyance system consisting of tunnels, dams, and related works to transport Trinity River water to the Sacramento River, (c) 4 hydroelectric powerplants with an installed capacity totaling 233,000 kilowatts, and (d) electric transmission facilities necessary to integrate the power output with other facilities of the

Central Valley project. No additional irrigation distribution works are provided for in this proposal.

The estimated cost of the Federal project based on January 1954 prices is \$219,282,000, allocated as follows: \$156,538,000 to commercial power, including transmission facilities; \$62,092,000 to irrigation; \$390,000 to municipal and industrial purposes—reimbursable items; \$47,000 to fish and wildlife and \$215,000 to recreation—nonreimbursable items.

The Department proposes that Trinity be constructed, operated, and maintained as an addition to and as an integral part of the existing Central Valley project. Under this plan of pooling of revenues under a basin account, it states that the reimbursable costs of all features of the comprehensive project would be repaid within 50 years after the last feature of Trinity is constructed.

Information furnished by representatives of the Bureau of Reclamation during hearings conducted by the Senate Subcommittee on Irrigation and Reclamation indicates that total annual Trinity power costs would be \$7,236,000, which represents annual charges of \$5,505,000 to amortize the power allocation in 50 years at 2½-percent interest plus \$1,731,000 for operation, maintenance, and replacements. The net incremental increase in firm energy output from the Central Valley project by addition of the Trinity development is estimated at 1,067 million kilowatt-hours which results in an average unit cost of about 6.8 mills per kilowatt-hour.

The average unit revenue received by the Federal Government for the sale of Central Valley power under current contracts is stated by the Department to be about 4.5 mills, which when applied to the Trinity power output, would produce annual revenues of \$14,801,500. The difference of \$2,434,500 between the estimated annual power cost and this estimated revenue would have to be provided from other sources, i. e., from revenues of existing Central Valley project features or from an increase in power rates.

Since, under the Department's analysis, the Trinity River irrigation water is to be used within the previously authorized Central Valley system, the irrigation repayment analysis includes an appropriate share of the costs of such facilities. The allocation to irrigation due to Trinity development of \$62,092,000 together with the cost of the Sacramento canals irrigation unit of \$57,932,000 is \$120,024,000. It is understood that gross revenues of \$129,631,000 are expected from the sale of Trinity water through the year 2013. Deducting operation, maintenance, and replacement costs of \$37,065,000 for the facilities used to supply and deliver this water over this same period leaves a balance of \$92,566,000 available for repayment of the capital costs. The difference of \$27,458,000 between total capital costs and revenues

available for repayment which averages \$549,160 annually would, under the Interior plan, be provided by other Central Valley irrigators and municipal water users.

The January 1955 addendum report on Trinity represents findings of a Bureau of Reclamation study under the condition that the single-purpose power facilities would be built and operated by a non-Federal agency through a partnership arrangement, thereby reducing the Federal investment. This report, by eliminating the costs of recreation facilities estimated at \$215,000 and the single-purpose power features estimated at \$64,876,000, reduced the total estimated Federal construction costs of Trinity from \$219,282,000 to \$154,191,000. This latter cost estimate was allocated to the joint features as follows: \$110,207,000 to power; \$43,937,000 to irrigation and \$47,000 to fish and wildlife. Of the power joint features allocation, the report estimated \$105,358,000 as the appropriate share that should be utilized in determining a basic charge for falling water at Trinity and the remainder, \$4,849,000, was charged to Keswick generation. Using this allocation, the report estimated \$3,951,000 as the annual charge for falling water which includes \$3,715,000 to amortize the appropriate share of power joint feature costs in 50 years at 2½ percent interest plus \$236,000 for operation, maintenance, and replacements. In addition, the non-Federal agency would be required to bear the single purpose power feature costs.

Related to this study is a letter dated January 13, 1955, from the Pacific Gas & Electric Co. to the Bureau of Reclamation setting forth an outline of a partnership plan under which the company offered to construct all power generation and transmission facilities of the proposed Trinity River development under the licensing provisions of the Federal Power Act. The company's plan for development of power facilities would increase the installed capacity from 233,000 kilowatts to 362,300 kilowatts and would provide for the payment to the Government of \$3,500,000 annually for the use of falling water. The company estimated a saving in capital outlay to the Federal Treasury of nearly \$50 million as well as other advantages to the Federal Government.

The Federal Power Commission, in its comments to the Department, advises that its staff is in general agreement with Interior's estimate of the power output expected from the Trinity development. In connection with its analysis of the addendum report, the Commission advised that the annual charge of \$3,951,000, corrected for interest during construction, probably represents the upper limit of the charge for falling water under the Interior plan. However, the Commission pointed out that the Federal Government capital cost under the proposed partnership plan of the company would be con-

siderably higher than under the plan in the addendum report. The Commission's staff estimates that a falling water charge on the addendum report's basis, when applied to the company's physical plan, would amount to more than \$5 million a year. The staff is of the opinion that additional cost allocation studies are needed in order to provide a proper basis for evaluation of the various project proposals and for possible negotiations. The Commission does not deem it appropriate to comment at this time on Federal and non-Federal cooperation, since these matters would be considered if and when an application for license is filed by non-Federal interests.

Comments by the States of Oregon and California are favorable to the construction of the Trinity development. The analysis by the department of public works, State of California, points out, however, that based on the power and water rates assumed in the report the financial integration of the Trinity River division with the Central Valley project would require a contribution from the latter project of \$3,110,000 per year to subsidize power production of the Trinity River division. It also points out that a contribution would be required from the Central Valley project of at least \$1,825,800 per year to subsidize repayment of the irrigation allocation of the Trinity River division.

The policy of this administration is to encourage partnership between Federal and non-Federal agencies in the development of water-resources projects. The President has stated that where non-Federal groups are willing to undertake such developments, either on their own responsibility or in partnership with the Federal Government, they should be encouraged and supported in doing so. Information contained in your addendum report and the proposal of the Pacific Gas & Electric Co. appear to offer opportunities to effect a partnership arrangement, which could result in a reduction in Federal capital outlay of somewhere between \$50 million and \$65 million. In addition, it would not be necessary to use the revenues of other Central Valley project features during the 50-year repayment period to assist in the return of the Federal investment in the Trinity power facilities. There would also be increases in tax receipts of Federal, and possibly State and local governments.

In the light of the administration's policy outlined above, the possibilities of a partnership plan for Trinity which would provide for non-Federal development of the power facilities and proper payments to the Government for the use of falling water based on an equitable determination of related joint-use facility costs should be explored. It is assumed that the Department is proceeding with studies and negotiations for non-Federal development of the power facilities under a partnership arrangement. It is suggested that your project and

addendum reports together with the related papers and a copy of this reply be transmitted to the Congress.

Sincerely yours,

PERCY RAPPAPORT,
Assistant Director.

SECRETARY'S LETTER TO PRESIDENT

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., July 12, 1955.

(Through the Bureau of the Budget)

The PRESIDENT,
The White House, Washington, D. C.

MY DEAR MR. PRESIDENT: My report on the Trinity River division, Central Valley project, California, is transmitted herewith pursuant to the provisions of section 9 (a) of the Reclamation Project Act of 1939 (53 Stat. 1187).

This report modifies and brings up-to-date the plan found feasible in the report of the Department of the Interior on the Trinity River division, which was sent to the Congress on January 2, 1953, and was printed as House Document No. 147, 83d Congress. The general plan as previously presented remains essentially the same. However, certain facilities would be enlarged and a slightly greater amount of water would be provided for use in the Central Valley Basin.

More than 1,100,000 acre-feet of additional water that would be made available in the Sacramento and San Joaquin Basins as a result of diverting from the Trinity River is urgently needed to supplement existing supplies. Main project facilities proposed consist of Trinity Dam, Reservoir and powerplant; Lewiston diversion dam, reservoir, and powerplant; Tower House tunnel, powerplant, and diversion dam; and Matheson tunnel and powerplant. The general plan provides for the regulation of Trinity River flows and diversion of Trinity River water through the tunnels to the Sacramento River Basin. The difference in elevation between the Trinity and Sacramento Rivers will provide an excellent opportunity for the generation of electric power and energy which also would make an important contribution to the economic welfare of the area.

The single-purpose power facilities could be constructed by a Federal or non-Federal agency. The enclosed addendum report discusses the sale of falling water for non-Federal development of the hydroelectric power and energy. The addendum outlines the possibility of a partnership arrangement for the construction of this project. Legislation to authorize such construction should be broad

enough so that the Secretary of the Interior would be authorized by the provisions of the bill to negotiate a contract for sale of falling water which would be associated with the construction of power facilities by a non-Federal agency, and to complete and put into effect such a contract if it can be negotiated satisfactorily. If construction of the project were to be so authorized, it would be possible for work on this addition to the Central Valley project to proceed without delay while the partnership contract is being negotiated.

The estimated cost of the proposed Trinity River division based on January 1954 prices, which are closely comparable to present prices, is \$219,282,000 all of which is reimbursable except \$215,000 for minimum recreation facilities and \$47,000 for fish protection facilities. All reimbursable costs would be returned to the Federal Treasury within 50 years after the last feature is constructed. The development is economically justified with a benefit-cost ratio well in excess of unity. The proposal has the strong support of local interests and of California State officials.

Copies of the proposed report of this Department were transmitted to the States of California and Oregon and to the agencies represented on the Interagency Committee on Water Resources for comments. All agencies except the Department of Agriculture to whom the report was sent have submitted comments and copies are enclosed with the report. If and when additional comments are received they will be forwarded to you immediately and ultimately sent to the Congress.

I shall appreciate having advice concerning the relationship of the Trinity River division, Central Valley project, California, to your program before I transmit the report to the Congress for its consideration and appropriate action, in accordance with the provisions of the Reclamation Act of 1939.

Sincerely yours,

DOUGLAS MCKAY,
Secretary of the Interior.

REPORT OF COMMISSIONER OF RECLAMATION

DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
Washington, D. C., June 15, 1955.

THE SECRETARY OF THE INTERIOR.

SIR: This is my report on the Trinity River division, Central Valley project, California. It is based on and includes the proposed report on this development which you approved and adopted on February 17, 1955.

Copies of your proposed report were transmitted to the States of California and Oregon and to the agencies represented on the Interagency Committee on Water Resources for comments. Comments which have been received from all agencies to which the report was referred except the Department of Agriculture are attached. If and when comments from the Department of Agriculture are received they will be immediately forwarded to you for your consideration and transmittal to the Bureau of the Budget and to the Congress.

In view of the generally favorable nature of the comments received, it does not appear that revision of your proposed report, as a result of review by the various agencies, is necessary. In particular, officials of the State of California, while indicating reservation in respect to some aspects of the physical and financial plan presented and recommending that legislation be sufficiently broad to permit revision of physical features, expressed the opinion that the Trinity River division should be developed and that it should be constructed at the earliest possible practicable date.

Since your approval of my proposed report on February 17, 1955, further negotiations with the Pacific Gas & Electric Co. in respect to the sale of falling water have been in progress. It is clear, however, that the Trinity River division will be a sound, economically feasible addition to the Central Valley project regardless of whether a Federal or non-Federal organization constructs the power features and there appears to be no reason why authorization and initiation of construction should be delayed pending a decision.

Accordingly, I recommend that the Trinity River division be reauthorized substantially in accordance with the plan presented in this report, so that construction may be undertaken as soon as practical on those works which can be built while further consideration is given to the possibilities and desirability of non-Federal construction of the hydroelectric power features. I recommend further that you approve and adopt this report as your report on the Trinity River division, Central Valley project, California, and that you transmit it together with the attached comments to the President, and subsequently to the Congress, in accordance with the provisions of the Reclamation Project Act of 1939.

Respectfully,

E. G. NIELSEN,
Acting Commissioner.

Approved and adopted July 12, 1955.

DOUGLAS MCKAY,
Secretary of the Interior.

PROPOSED REPORT OF THE COMMISSIONER OF RECLAMATION

DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
January 19, 1955.

The SECRETARY OF THE INTERIOR.

SIR: This is my proposed report on the Trinity River division, Central Valley project, California. It is based on and includes the accompanying supplemental report of the regional director, Bureau of Reclamation, Sacramento, Calif.

This report, when implemented, would modify and supplement the plan found feasible in the report of the Department of the Interior on the Trinity River division, Central Valley project, California, which was authorized by your immediate predecessor on December 9, 1952, and was transmitted to the Congress on January 2, 1953. The previous report was printed as House Document 53, 83d Congress, and the comments from the State of California on that report were printed as House Document No. 147, 83d Congress.

The Trinity River division is urgently needed to supply additional water to the Central Valley project of the Bureau of Reclamation for use in both the Sacramento and San Joaquin River Basins. The importance of early construction of the Trinity River development is emphasized by the congressional authorization of the Sacramento Valley canals as part of the Central Valley project (act of Sept. 26, 1950, 64 Stat. 1036). It is anticipated that full development of the Sacramento canals unit, which is now under construction, will require diverted Trinity River division water. This was pointed out in the Department's report on the Sacramento canals unit (H. Doc. 73, 83d Cong.) wherein it was stated that "* * * the Trinity River diversion works are required as a physical means of providing the water supply needed over the long run for the Sacramento canals unit" (p. vii) and that "* * * the Sacramento canals unit has engineering feasibility on the basis that the Trinity River division, upon which the canals unit is dependent for a firm water supply * * * will be authorized and constructed" (p. xi). In addition the importance of imported water to the San Joaquin River basin, where large areas are experiencing an alarming drop in the ground-water table as a result of pumping, cannot be overemphasized.

The Trinity River division, in Trinity and Shasta Counties in northwestern California, consists of Trinity Dam, Reservoir, and powerplant; Lewiston diversion dam, reservoir, and powerplant; Tower House tunnel, powerplant, and diversion dam; and Matheson tunnel and powerplant. The general plan proposes the diversion of water from the Trinity River Basin into the Sacramento River Basin

of the Central Valley. Trinity Reservoir on the Trinity River would be the major storage facility. Lewiston Reservoir, a short distance below Trinity Reservoir, would reregulate flows from Trinity Reservoir for diversion eastward through Tower House tunnel and for downstream uses especially for fish purposes. The diverted water would flow through Tower House tunnel and drop through Tower House powerplant into Clear Creek. Tower House diversion dam on Clear Creek just below the powerplant would divert water through Matheson tunnel from which it would drop through Matheson powerplant and into the existing Keswick Reservoir, Central Valley project, on the Sacramento River. These facilities and this plan are the same, except for size of some features, as the same items presented in House Document 53, 83d Congress.

The following listing comprises those facilities which in the presently proposed plan are different from the plan as previously presented to the Congress. For convenience of comparison, figures from the previous report are also set forth. All other features not listed are essentially the same.

Feature	New plan	Previous plan
Trinity Reservoir capacity-----acre-feet--	2, 500, 000	1, 800, 000
Trinity powerplant, installed capacity kilowatts----	90, 000	75, 000
Steam plant and subsidiary transmission facilities kilowatts--	None	70, 000

The changes in the facilities from those previously recommended resulted from additional information and suggestions made by public agencies which commented on the previous report. On an average annual basis, the somewhat expanded plan would divert 704,000 acre-feet of Trinity River water to the Sacramento River Basin which when coordinated with the Central Valley project system would provide 1,190,000 acre-feet for additional use in the Central Valley project (comparable figures for the previous plan are 660,000 acre-feet and 1,010,000 acre-feet respectively). **Of this 1,190,000 acre-feet, 665,000 acre-feet would be used annually to meet the ultimate needs of 205,400 net acres in the authorized Sacramento canals unit of the Central Valley project and 525,000 acre-feet annually would be available for use on other lands in the Central Valley such as those of the potential San Luis unit of the Central Valley project.** The new total installed hydroelectric power capacity would be 233,000 kilowatts, as compared to 218,000 kilowatts under old plan. It is contemplated that this larger installed capacity will increase the Central Valley project energy by 1,067 million kilowatt-hours annually.

The estimated cost of the Trinity River division based on January

\$215,000 for minimum recreation facilities which I recommend be provided at Trinity and Lewiston Reservoirs and \$47,000 for fish-protection facilities both of which would be nonreimbursable. It appears desirable also to acquire 1,200 acres of land adjacent to the reservoir areas primarily for recreation purposes and principally in connection with minimum facilities. The costs allocated to fish protection represent the costs of specific fish-protection facilities only. Further consideration will be given to this allocation in the preparation of the definite plan report in light of the applicable policies and provisions of the act of August 14, 1946 (60 Stat. 1080). The Trinity River division would be integrated physically and financially with the Central Valley project. All reimbursable costs would be repaid within 50 years after the last feature of the division is constructed.

Public hearings have disclosed the large majority of California interests recognize the value of adding the Trinity River division to the Central Valley project and are anxious that the division be constructed. The few opposed interests who reside downstream in the Klamath River Basin are concerned over their future water needs. Our studies, however, indicate that the proposed diversion would utilize only a small percentage of the water now wasting into the Pacific Ocean from the Klamath River watershed. These studies also disclose that the relatively small amount of water that would be diverted would not affect future development of either the Trinity River Basin or the Klamath Basin downstream as water in those areas would be more than adequate to satisfy future needs. Trinity division would be a sound investment for the country in view of the favorable ratio of primary benefits alone to total cost of 1.86 to 1. Total benefits resulting from the development would outweigh the cost in a ratio of 3.31 to 1.

The fishery resources of the Trinity River are an asset to the Trinity River Basin as well as to the whole north coastal area. Accordingly, the Trinity River development has been planned with a view to maintaining and improving fishery conditions. Proposed Trinity River minimum flow schedules below Lewiston diversion dam and proposed minimum flows in Clear Creek below Tower House diversion dam as prescribed in House Document 53, 83d Congress, would be provided. Alteration in these schedules would not be made without consultation with the California Department of Fish and Game. Additional studies of the fish and wildlife resources affected by the project would be conducted as necessary during the detailed planning stage of the project, in accordance with section 2 of the act of August 14, 1946, (60 Stat. 1080), and such reasonable modifications in the authorized project facilities would be made by the Secretary of the Interior as he may find necessary for the conservation of these

An additional study of the Trinity River division assuming the sale of falling water to, and the construction of separate power facilities by, a non-Federal agency has been made and the results are included in the attached Addendum to Supplementary Report. This study constitutes an initial exploratory step to provide information that would be of assistance in the consideration of the possible construction of single-purpose power features of the Trinity River division by a non-Federal agency. It develops a proposed basic charge for falling water which would be subject to adjustment through negotiation to compensate for various related factors that would be considered in any overall agreement. It does not, nor could it at this time, present a comprehensive appraisal of all of the factors and problems involved.

Under the plan presented in the addendum report of the Federal Government would construct the Trinity Dam and Reservoir, the Lewiston and Tower House diversion dams and reservoirs, and the Tower House and Matheson tunnels as joint-use features of the Trinity River division at a total Federal construction cost of \$154,190,600 exclusive of recreation features. The non-Federal agency would construct the Lewiston, Trinity, Tower House, and Matheson powerplants and all necessary switchyards and transmission lines.

In developing a suggested basic charge for falling water the addendum report sets forth two criteria that should be met: first, that it must reflect the amount necessary to amortize, with interest at 2½ percent, in 50 years an equitable share of the joint-use features which would be constructed by the Federal Government, and second, that it must be sufficient to maintain the Central Valley project including the addition of the potential San Luis unit on a basis no less favorable than if the Trinity power features were constructed and operated by the Federal Government as part of the Central Valley project.

In the falling water studies it was found that the proposed basic charge for falling water is in direct relation to the joint-use feature costs allocated to falling water and meets both criteria. As developed in the addendum report, and based primarily on a modified proportionate-use method of allocation, these joint-use feature costs allocated to falling water aggregate \$105,358,000. In any future refinement of the falling water studies it would be proper to give consideration to other methods of cost allocation although it is believed that the results would not vary widely from those presented herein.

Based upon amortization of the \$105,358,000 in 50 years at 2½ percent interest and inclusion of an appropriate share of joint-feature operation, maintenance, and replacement costs an annual basic charge for falling water of \$3,951,000 is indicated. When corrected to ac-

count for interest during construction this charge would be increased by about 5 percent.

The addendum report points out, and I wish to emphasize, the necessity in any arrangement for the sale of falling water of a specific provision for the exchange of power between the Central Valley project and the purchaser. This provision should require the purchaser to support the power necessary for pumping water for the Central Valley project and to meet the long-term power supply obligations of the Central Valley project, particularly in respect to the present contract with the Sacramento Municipal Utility District, both in a manner that would be favorable to the continued operation and growth of the irrigation phases of the Central Valley project. The exact terms of any overall agreement covering this and other factors mentioned in the addendum report, and including the effects of any changes in physical works or plan of operation required for either the Trinity River division or the Central Valley project would be subject to negotiation between the Federal Government and the purchaser and would be considered in any adjustment of the proposed basic charge for falling water stated above.

Construction by a non-Federal agency of the single-purpose power features of the Trinity River division would result in reducing the Federal construction costs by approximately \$64,876,000 with the corresponding reduction of this amount in the Federal budget. Any change in the physical plan such as a change in installed generating capacity, resulting in increase or decrease in the size and costs of the tunnels or other changes would, of course, be reflected by a change in this amount. Non-Federal construction of the power features would relieve, further, the financial burden on the Central Valley project of integrating the Trinity River power features with the relatively lower cost existing power features. On the other hand, the sale of falling water would decrease the amount of power which the Central Valley project would have for project use and for sale. Also, it would require an increase in the amount of power to be acquired through purchase or exchange to meet irrigation pumping expansion. A comparison of the revenues and costs of Trinity River division power development with and without Federal construction of the power-plants and adjusted to reflect annual averages over the 50-year payout period is shown in the following tabulation:

Annual costs and revenues

Item	Federal construction of power features (integrated with CVP)	Sale of falling water (proposed basic charge)
Costs:		
Amortization of joint-feature costs.....	\$2, 990, 000	\$3, 715, 000
Amortization of single-purpose costs.....	1, 750, 000	0
Operation, maintenance, and replacement..	1, 790, 000	236, 000
Total costs.....	6, 530, 000	3, 951, 000
Revenues:		
Sales (power of falling water).....	5, 030, 000	3, 951, 000
Contribution required from other features of CVP.....	1, 500, 000	-----
Total revenues.....	6, 530, 000	3, 951, 000

The above tabulation indicates that the Central Valley project would be required to contribute to the support of the Trinity River power production under Federal construction to the extent of \$1,500,000 annually during the payout period. Because of higher basic cost developments, higher present construction costs, and the leveling influence of long established revenue-producing components of existing power systems, this is characteristic of the expansion of any large power system public or private. The sale of falling water on the basis proposed would return to the Federal Government its investment in joint-use power features at the current cost of money to the Government.

The supplementary report with its addendum presents alternative means for the development of the single-purpose power features of the Trinity River division. Either alternative, under appropriate conditions, provides for the continued expansion of irrigation as part of the Central Valley project.

In addition to my recommendation made herein concerning minimum recreation facilities, I concur in and adopt the recommendations of the regional director as set forth in paragraph 16 of his supplementary report conditional to the provision either for Federal development of the power potential or for the sale of falling water as outlined in the addendum to the supplementary report.

I recommend that you approve and adopt this report as your proposed report on the Trinity River division, which, when implemented, would modify and supplement the report printed as House Document 53, 83d Congress, and that you authorize me in your behalf

to transmit copies to the State of California and to other interested agencies for their comments on the proposed modifications.

Respectfully,

W. A. DEXHEIMER,
Commissioner.

Approved and adopted February 17, 1955.

DOUGLAS MCKAY,
Secretary of the Interior.

SUPPLEMENTARY REPORT OF THE REGIONAL DIRECTOR

DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
REGIONAL OFFICE, REGION 2,
Sacramento, Calif., July 1, 1954.

To: Commissioner.

From: Regional director.

Subject: Supplementary report on Trinity River division—Central Valley project, California.

TRANSMITTAL

1. During 1952 and 1953 further studies have been made of the engineering and economic feasibility of the Trinity River division, Central Valley project. They supplement those presented in the regional report of January 31, 1952. The studies resulted from suggestions of local officials of the Federal Power Commission concerning enlargement of Trinity Reservoir, the principal storage feature of the division, and also incorporated refinement in operating criteria, analyses of service areas, and probable irrigation and power requirements. The results of these additional studies and the principal engineering and economic data developed are presented in this report and demonstrate, as did the previous report, that the Trinity River division is well justified, both engineeringly and economically, as a major unit of the Central Valley project.

2. The general plan of development presented in the January 31, 1952 report, which formed the basis for the Secretary's finding of feasibility of January 2, 1953, is unchanged, but a number of important modifications have been made in matters of detail. For this reason, the results of the recent studies are presented as a supplement to the previous regional report (H. Doc. No. 53, 1st sess., 83d Cong.) which contained a wealth of data on the project and the area which are not repeated herein.

3. The Trinity River division consists of a series of works, shown on the frontispiece sketch map, which would develop a portion of the

water and power potential of the Trinity River in northwestern California. The principal works consist of Trinity Reservoir with an appurtenant powerplant, and a series of diversion dams, tunnels, and powerplants, to put to use surplus flows of the Trinity River while improving recreation conditions in Trinity County. Surplus flows would be conveyed to the Central Valley for irrigation purposes under criteria which would provide full protection to existing and future water requirements in the Trinity River watershed. Hydroelectric energy would be generated en route. The works would be integrated with those of the Central Valley project, both operationally and financially.

PLAN OF DEVELOPMENT

4. Under the plan of development proposed in this report Trinity Reservoir, the major storage feature of the division, would have a capacity of 2,500,000 acre-feet. Releases from this reservoir would be utilized by a 90,000-kilowatt powerplant. Water stored in and released from this major storage reservoir would be reregulated in a small reservoir to be formed behind the Lewiston diversion dam. This structure would contain outlets to release adequate water down the Trinity River to meet downstream requirements, including those of the important Trinity River fishery. The Tower House tunnel, Tower House powerplant, Clear Creek diversion dam, Matheson tunnel, and Matheson powerplant, included in the January 31, 1952, report, would remain the same. Transmission facilities would consist of backbone lines necessary for proper interconnection of Central Valley project hydroelectric plants and to enable Trinity division power output to reach load centers and project pumping facilities.

5. The supplementary studies summarized herein demonstrate to me that the plan of development and operation proposed in House Document No. 53 should be modified and I so recommend. Engineering, agricultural, and economic analyses supporting this recommendation are summarized in the following paragraphs.

PROJECT FEATURES

6. To effectuate the plan of putting the wasting waters of the Trinity River to beneficial use, the following features are needed and justified:

(a) Trinity Dam. 450 feet high (above streambed), impounding 2,500,000 acre-feet of water, located on the Upper Trinity River, and Trinity powerplant, design head 381 feet, capacity 90,000 kilowatt, located at Trinity Dam.

(b) Lewiston diversion dam on Trinity River, the diversion structure for Tower House tunnel, forming a lake of about 2,000 acre-feet

active capacity, and Lewiston powerplant at Lewiston Dam, capacity 2,000 kilowatts.

(c) Tower House tunnel, capacity 1,700 cubic feet per second, length 8 miles, extending from Lewiston Reservoir to Tower House powerplant on Clear Creek.

(d) Tower House powerplant on Clear Creek, capacity 66,000 kilowatts, operating under a design head of 556 feet.

(e) Tower House diversion dam, a small concrete dam across Clear Creek to reregulate the releases from Tower House powerplant and divert them, as well as usable Clear Creek flows, into Matheson tunnel.

(f) Matheson tunnel, capacity 1,700 cubic feet per second, length 9 miles, extending from Clear Creek to Matheson powerplant on the edge of Keswick Reservoir.

(g) Matheson powerplant, operating under a design head of 641 feet, capacity 75,000 kilowatts.

(h) Transmission facilities necessary for proper interconnection of the Trinity power into the present Central Valley project transmission system.

ACCOMPLISHMENTS

7. Under this plan of development, surplus water from the Trinity River would be transported into the Sacramento Valley in a manner that would insure its most efficient use. In years similar to the 20-year period of analysis (October 1921 to September 1941, inclusive) used in this study, the annual amount transported from the Trinity River would vary from a minimum of 480,000 acre-feet to a maximum of 1,019,000 acre-feet and would average about 704,000 acre-feet. By coordination with other features of the Central Valley project and by utilizing natural streamflows in the Central Valley, about 1,190,000 acre-feet of water can be made available annually to meet irrigation diversion demands. **This amount of water will meet the ultimate annual water requirements, 665,000 acre-feet, for the 205,400 acres comprising the Sacramento canals unit. The remaining 525,000 acre-feet will be available to irrigate 142,800 acres of land in the Delta-Mendota service area.**

8. The Trinity River division will add 233,000 kilowatts of hydroelectric generating capacity to the Central Valley project system. By operating the Trinity River division powerplants in coordination with the Shasta, Folsom, Keswick, and Nimbus hydroelectric plants of the Central Valley project, hydroenergy generation of the enlarged Central Valley project will be increased about 1,067 million kilowatt-hours annually. It is assumed that this energy will be marketed in accordance with the terms of existing Central Valley project power contracts; under these contracts, power sold to preference customers is firmed by the Pacific Gas and Electric Co.

CAPITAL COSTS

9. The estimated cost of construction for the Trinity River division, based on prices prevailing in January 1954 is \$219,067,000. Costs of the individual features are summarized in the following tabulation:

Trinity Dam and Reservoir.....	\$90,399,000
Trinity powerplant and switchyard.....	15,033,000
Lewiston diversion dam and reservoir.....	5,525,000
Lewiston powerplant.....	667,000
Tower House tunnel.....	30,355,000
Tower House powerplant and switchyard.....	10,070,000
Tower House diversion dam and reservoir.....	1,182,000
Matheson tunnel.....	31,246,000
Matheson powerplant and switchboard.....	9,457,000
Backbone transmission lines and substations.....	19,025,000
Keswick switchyard additions.....	879,000
Elverta switchyard additions.....	925,000
Tracy switchyard additions.....	2,129,000
General property.....	2,123,000
Radio control.....	51,600
Total.....	219,066,600

A more detailed cost estimate and a construction schedule are given in the attached tables 1 and 2.

ECONOMIC JUSTIFICATION

10. The economic justification for the Trinity River division has been determined by a benefit-cost analysis comparing annual equivalent benefits with annual equivalent Federal costs. Since benefits from irrigation water service are measured at the main canal turnouts in this analysis, all costs necessary to convey water to these points must be considered. Thus, costs of features associated with water conveyance in the Central Valley have been included. These economic costs include (1) an estimated \$58,353,000 for the Sacramento canals units, (2) \$27,115,000 for the allocated portion of the Delta-Mendota Canal and delta cross channel which is already included in Central Valley project costs, (3) \$219,067,000 for the Trinity River division. Incidental fish and wildlife and recreational benefits associated with the Trinity River division and the Sacramento canals unit have been included also in order to make the analysis complete. Annual equivalent Federal costs for the division and associated features consist of the amount necessary to amortize or retire the net project investment over a 100-year period at 2.5 percent interest plus estimated annual operation, maintenance, and replacement expenses. Adjustment was made for the estimated construction and

development period. Annual equivalent Federal project costs calculated as outlined above are as follows:

Operation, maintenance, and replacement.....	\$2,436,000
Amortization of investment.....	8,525,000
Total.....	10,961,000

11. Annual equivalent benefits likewise were adjusted to take into account the period needed for construction and development of the project. These benefits, both primary and total, are summarized as follows:

	Primary benefits	Total benefits
Irrigation.....	\$17,563,000	\$31,613,000
Less cost of distribution systems.....	-4,994,000	-4,994,000
Subtotal.....	12,569,000	26,619,000
Power.....	7,667,000	9,533,000
Fish and wildlife.....	136,000	136,000
Recreation.....	64,000	64,000
Total.....	20,436,000	36,352,000
Less agricultural loss from inundation.....	-21,000	-21,000
Grand total.....	20,415,000	36,331,000

12. A comparison of annual equivalent primary benefits (\$20,415,000) with annual equivalent Federal costs (\$10,961,000), results in a benefit-cost ratio of 1.86 to 1. When total benefits (\$36,331,000) are compared with annual equivalent Federal costs (\$10,961,000), the benefits are found to exceed the costs by a ratio of 3.31 to 1.

COST ALLOCATION AND REPAYMENT

13. Financial feasibility or probable repayment has been tested by cost allocation and repayment analyses of Central Valley project both excluding and including the Trinity River division. The following tabulation summarizes, by project functions, the capital cost allocation and probable repayment of the enlarged project including Trinity River division. Further details concerning repayment may be found in tables 3 to 11 attached.

Function	Cost allocation	Probable repayment through fiscal year 2013
Nonreimbursable:		
Navigation.....	\$8,055,000	
Flood control.....	44,999,000	
Fish and wildlife.....	¹ 1,478,000	
Total nonreimbursable.....	54,532,000	
Reimbursable:		
Irrigation.....	399,378,000	\$324,392,500
Commercial (surplus) power.....	280,221,000	² 346,856,600
Municipal and industrial water service.....	20,782,000	⁴ 29,131,900
Total reimbursable.....	700,381,000	700,381,000
Distribution systems.....	51,455,000	51,455,000
Total.....	⁵ 806,368,000	751,836,000
Interest on power and municipal and industrial investment.....		⁶ 122,964,600
Earned surplus from power.....		³ 170,678,200

¹ Includes Trinity fish facilities \$47,000, Nimbus fish facilities \$1,010,000, and Sacramento canals unit fish facilities \$421,000.

² Includes \$66,635,600 aid toward irrigation repayment.

³ Table 10: Power system average rate and repayment study, is based on continuation of present contractual relationships for sale of project surplus energy and purchase of support energy. Present power contracts do not require consideration of water conditions as severe as those of 1930-34; recurrence of such severe runoff conditions would not prevent repayment within 50 years if such conditions did not occur before 1977.

⁴ Includes \$8,349,900 aid toward irrigation repayment.

⁵ Includes the cost of Central Valley project exclusive of the Trinity River division and Sacramento canals unit (\$477,493,000), cost of Trinity River division (\$219,067,000), cost of the Sacramento canals unit (\$58,353,000), and the cost of distribution systems (\$51,455,000).

⁶ Includes \$101,508,300 on power investment, \$21,326,500 on municipal and industrial investment, and \$129,800 on investment in that portion of the Contra Costa Canal distribution system used for municipal and industrial water deliveries.

COMMENTS OF THE STATE OF CALIFORNIA

14. By letter dated April 13, 1953⁹ the Director of Public Works of the State of California transmitted, pursuant to the 1944 Flood Control Act, the comments of the State on the proposed report of the Secretary of the Interior, which was based on the January 31, 1952, regional report. In his letter the Director of Public Works concludes:

"It is the position of the State of California, based on the study and report of the Division of Water Resources, that the Trinity River project is engineeringly and economically feasible and that it should be constructed at the earliest practicable date. I personally concur in this position."

In the underlying report of the State Division of Water Resources, on which the Director of Public Works based his comments, the State

⁹ H. Doc. No. 147, 83d Cong., 1st sess.

engineer demonstrated that potential water and power revenues from various plans for diversion of the Trinity River involving storage at the Trinity Reservoir site varying from 1,005,000 to 1,835,000 acre-feet would exceed substantially the related project costs. This analysis, based on operation of the diversion project independently of the Central Valley project and with benefits limited to expected water and power revenues, indicated that the economic size of Trinity Reservoir is 1,300,000 acre-feet. Integration of the Trinity River division with the existing Central Valley project and consideration of benefits other than those reflected by potential water and power revenues are factors which tend to raise substantially the most economic reservoir size. The State engineer concluded in his report that further studies should be made of the economic size of Trinity Reservoir before adoption of final plans. In view of the comment of the Director of Public Works quoted above and in light of the clearly demonstrable feasibility of a 2,500,000 acre-foot Trinity Reservoir it is believed that any differences with the State in this regard are not serious and can be reviewed jointly prior to preparation of final plans.

CONCLUSIONS

15. From the studies contained in House Document No. 53 and from the result of studies since that time it is concluded that—

(a) There is immediate need for supplementary sources of irrigation water supply for the Central Valley and increased electric capacity in northern California.

(b) Surplus water can be diverted from the Trinity River to the Central Valley without detrimental effect to the fishery resources or to the present and future water requirements of the Trinity River Basin.

(c) Operation of a large multiple-purpose reservoir and an afterbay on Trinity River, as proposed in the reports, offers substantial opportunity for increased recreational utilization of Trinity River Basin.

(d) The Trinity River division will make available an average of over 1,190,000 acre-feet of water annually for irrigation in the Central Valley, including water from Central Valley streams made usable by the division works, and will increase the amount of hydroelectric energy generated from the Central Valley project by more than 1,067 million kilowatt-hours annually for the northern California power market.

(e) The ratio of primary benefits to costs is 1.86 to 1; the ratio of total benefits to costs is 3.31 to 1.

(f) The recommended development has engineering and economic feasibility when operated as an element of the Central Valley project.

Reimbursable costs can be repaid in full from power and water revenues in accordance with provisions of Federal reclamation laws.

RECOMMENDATIONS

16. It is recommended that the following works constituting the Trinity River division be constructed, operated, and maintained by the Bureau of Reclamation, Department of the Interior, as part of the Central Valley project, California, in accordance with the Federal reclamation laws¹⁰ substantially in agreement with the plans set forth in House Document No. 53 as modified by this supplemental report, with such further modifications as may be recommended by the Commissioner of Reclamation and approved by the Secretary of the Interior:

Trinity Dam and powerplant
 Lewiston diversion dam and powerplant
 Tower House tunnel and powerplant
 Tower House afterbay and diversion dam
 Matheson tunnel and powerplant
 Transmission lines, substations, and switchyards
 Necessary pertinent works

C. H. SPENCER.¹¹]

Public Works 1957 Appropriation Act (70 Stat. 474, 478), 1956

• The Trinity River Act provides, in section 1, for upstream developments through conservation of Clear Creek flows, and irrigation development in the vicinity of Cow Creek, as they may be determined to be feasible by the Secretary of the Interior. The power capacity was limited in the act to 233,000 kilowatts. The Public Works 1957 Appropriation Act makes further provision relative to these features, including authorization for an increase in hydroelectric capacity to 400,000 kilowatts. With respect to authorization of Whiskeytown Reservoir for conservation of Clear Creek and the hydroelectric capacity, the report of the Senate Committee on Appropriations on the Public Works Appropriations, 1957 (S. Rept. No. 2169, 84th Cong.), is quoted:

[*Central Valley project, California.*—The authorizing act for the Trinity Division provided for a power development of not to exceed

¹⁰ Act of June 17, 1902, 32 Stat. 388, and acts amendatory thereof or supplementary thereto, including sec. 2 of the act of August 26, 1937, 50 Stat. 850; sec. 2 of the act of October 17, 1940, 54 Stat. 1198, 1199; Public Law 356, 81st Cong., 1st sess.; and Public Law 839, 81st Cong., 2d sess.

¹¹ Financial tables that are a part of this report are included in Part II.

233,000 kilowatts, which was based on the plan of development that did not include storage on Clear Creek. However, the authorizing act did provide for the Clear Creek project. In order to have a full development of the resource the power capacity will have to be increased. The committee recommends the inclusion of a provision in the bill to authorize the development of power facilities not to exceed approximately 400,000 kilowatts.】

• This matter is further clarified in the conference report on the Public Works Appropriation bill, 1957, dated June 25, 1956 (H. Rept. No. 2413, 84th Congress, p. 5) :

【Amendments Nos. 10, 11, and 12: Reported in disagreement. With respect to amendment No. 11, which inserts Senate language concerning power facilities on the Trinity division, Central Valley project, the conferees of both Houses are in agreement that the provision has only one purpose, which is to increase the authorized power development from that of 233,000 kilowatts contained in the authorizing act (Public Law 386, 84th Cong.) to not to exceed approximately 400,000 kilowatts. It is not the intent of the conferees to in any way affect the provisions of the authorizing act set out in the proviso in section 1, pertaining to the negotiations with a private utility in the area for the development of the power facilities of the project. With respect to funds appropriated in the bill for the Central Valley project, the schedule presented in the budget justifications shall not be considered as being amended by this provision.】

• The Public Works Appropriation Act, 1957 (70 Stat. 474), approved July 2, 1956, provides as follows:

【Funds made available herein and hereafter to the Trinity division, Central Valley project, shall be available for the design and construction of power and hydraulic facilities totaling not to exceed approximately four hundred thousand kilowatts.】

Chapter X

FEDERAL BASIN PLANS

Bureau of Reclamation Basin Report (S. Doc. No. 113, 81st Cong.), 1949

• In 1944 and 1945 the Bureau of Reclamation prepared a comprehensive report on the development of water and related resources of the Central Valley Basin. This was presented as a proposed report of the Secretary of the Interior in a letter of November 9, 1945, from Commissioner H. W. Bashore to the Secretary. To this was attached the report of Regional Director Richard L. Boke dated November 1, 1945. These and other materials pertinent to the comprehensive report are contained in Senate Document No. 113, 81st Congress, under the title of Central Valley Basin.

• Comments of the State of California consist of a 130-page review report by the State Division of Water Resources transmitted by a letter of April 29, 1946, from C. H. Purcell, Director of Public Works. On the basis of the comments of the State and of the Federal agencies, a revised report was submitted in a letter of July 26, 1948, from Acting Commissioner Kenneth Markwell to the Secretary of the Interior. To it was attached the Regional Director's revised report dated December 1, 1947. These in turn were submitted to the President by Secretary J. A. Krug's letter of July 29, 1948. Secretary Krug's letter and certain of the accompanying documents are quoted below:

【JULY 29, 1948.

THE PRESIDENT,

The White House,

(Through the Bureau of the Budget).

MY DEAR MR. PRESIDENT: Transmitted herewith is my report on a comprehensive plan for the development of the water resources of the Central Valley Basin, Calif., submitted in accordance with the provisions of the Reclamation Project Act of 1939 (53 Stat. 1187). The report was prepared as a departmental undertaking, under the sponsorship of the Bureau of Reclamation. Enclosed with the report are comments which have been received from the State of California