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# AUBURN-FOLSOM SOUTH UNIT OF THE CENTRAL VALLEY PROJECT

GOVERNMENT

Storage

## HEARINGS BEFORE THE SUBCOMMITTEE ON IRRIGATION AND RECLAMATION OF THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS UNITED STATES SENATE EIGHTY-EIGHTH CONGRESS FIRST SESSION

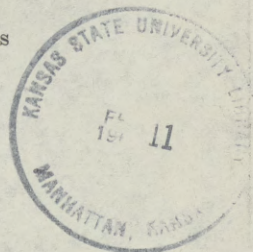
ON

**S. 351**

A BILL TO AUTHORIZE THE SECRETARY OF THE INTERIOR TO  
CONSTRUCT, OPERATE, AND MAINTAIN THE AUBURN-FOLSOM  
SOUTH UNIT, AMERICAN RIVER DIVISION, CENTRAL VALLEY  
PROJECT, CALIFORNIA, UNDER FEDERAL RECLAMATION LAWS

NOVEMBER 18 AND 19, 1963

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



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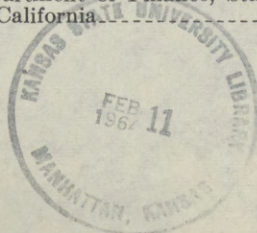


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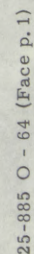


 Reservoirs, conduits  
 Service areas

A horizontal scale bar labeled "SCALE OF MILES" with major tick marks at 5, 10, and 15, and minor tick marks every 1 unit.

859-208-65

DECEMBER 1961









## AUBURN-FOLSOM SOUTH UNIT OF THE CENTRAL VALLEY PROJECT

MONDAY, NOVEMBER 18, 1963

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

The subcommittee met, pursuant to call, at 10 a.m., in room 3110, Senate Office Building, Senator Frank E. Moss (chairman of the subcommittee) presiding.

Present: Senators Frank E. Moss (Utah), Quentin N. Burdick (North Dakota), Thomas H. Kuchel (California), and Len B. Jordan (Idaho).

Also present: Jerry Verkler, staff director; Stewart French, chief counsel; Roy Whitacre, professional staff member; and Richard D. Andrews, minority counsel.

Senator Moss. The subcommittee will now come to order.

The hearing this morning is to consider S. 351, introduced by Senators Engle and Kuchel, to authorize the Secretary of the Interior to construct, operate, and maintain the Auburn-Folsom south unit, American River division, Central Valley project, California, under Federal reclamation law.

The bill calls for the construction of a multipurpose project costing about \$425 million. A similar bill, S. 103, was favorably reported by the Senate Interior and Insular Affairs Committee on August 7, 1962. The proposal, at that time, was not as large, contemplating a \$267 million construction program. A larger reservoir and increased power production accounts for the difference.

The report of the Department of the Interior dated November 13, 1963, recommends enactment of the bill, if amended, in accordance with its recommendations.

Generally, this project would authorize the 21½ million acre-foot Auburn Dam and Reservoir, together with a 240,000-kilowatt powerplant, as well as the 67½-mile Folsom south canal for irrigation and domestic water service to the east side of the San Joaquin Valley, and related facilities for the Foresthill Divide and Folsom-Malby areas.

Because of the large number of witnesses who have asked to testify, 2 days have been set aside so that everyone can be heard.

Contrary to our usual practice, the Department witnesses will not be heard until tomorrow.

Before calling on our colleague, Senator Kuchel, one of the sponsors of this bill, for his comments, I will place in the record a copy of the bill and reports of the Department of the Interior and the Bureau of the Budget.



(The bill and reports referred to follow :)

[S. 351, 88th Cong., 1st sess.]

A BILL To authorize the Secretary of the Interior to construct, operate, and maintain the Auburn-Folsom south unit, American 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 (hereinafter referred to as the "Secretary"), 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 Auburn-Folsom south unit, American River division. The principal works of the unit shall consist of:

(1) the Auburn Dam and Reservoir with maximum water surface elevation of one thousand one hundred and forty feet above mean sea level, and capacity of approximately two and one-half million acre-feet;

(2) a hydroelectric powerplant at Auburn Dam with initial installed capacity of approximately two hundred and forty thousand kilowatts and necessary electric transmission system for interconnection with the Central Valley project power system: *Provided*, That provision may be made for the ultimate development of the hydroelectric capacity (now estimated at approximately four hundred thousand kilowatts) and such installation may be made when the Secretary determines that it is economically justified and engineeringly feasible;

(3) the Sugar Pine Dam and Reservoir;

(4) the County Line Dam and Reservoir;

(5) necessary diversion works, conduits, and other appurtenant works for the delivery of water supplies to projects on the Forest Hill Divide in Placer County and in the Folsom-Malby area in Sacramento and El Dorado Counties;

(6) the Folsom south canal and such related structures, including pumping plants, regulating reservoirs, floodways, channels, levees, and other appurtenant works for the delivery of water as the Secretary determines will best serve the needs of Sacramento and San Joaquin Counties: *Provided*, That the Secretary is authorized to include in such canal and related operating structures such additional works or capacity as he deems necessary and economically justified to provide for the future construction of the East Side division of the Central Valley project, and the incremental costs of providing additional works or capacity in the Folsom south canal to serve the east side division of the Central Valley project shall be assigned to deferred use for repayment from Central Valley project revenues. In the event that the east side division is authorized, such costs shall be deemed a part of the cost of that division and shall be reallocated as the Secretary deems right and proper.

SEC. 2. Subject to the provisions of this Act, the operation of the Auburn-Folsom south unit, American 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. Auburn Dam shall be operated for flood control in accordance with criteria established by the Secretary of the Army as provided for in section 7 of the Flood Control Act of 1944 (58 Stat. 887, 33 U.S.C. 709).

SEC. 3. (a) The Secretary is authorized as a part of the Auburn-Folsom south unit to construct, operate, and maintain public recreation facilities including access roads, to acquire or to withdraw from entry or other disposition under the public land laws such adjacent lands or interests therein as are necessary for present and future public recreation use, and to provide for public use and enjoyment of the same and of the water areas of the project in a manner consistent with the other project purposes. The Secretary is authorized to enter into agreements with State or local public agencies or other public entities for the operation, maintenance, or additional development of project lands or facilities or to dispose of project lands or facilities to State or local agencies or other public entities by lease, transfer, exchange, or conveyance, upon such terms and



conditions as will best promote their development and operation in the public interest for recreation purposes. The costs of the undertakings described in this section, including costs of investigation, planning, Federal operation and maintenance and an appropriate share of the joint costs of the Auburn-Folsom south unit, as determined by the Secretary, but not to exceed 25 per centum, shall be nonreimbursable.

(b) The Secretary may make such reasonable provision in connection with the Auburn-Folsom south unit as, upon further study in accordance with section 2 of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661, 662), he finds to be required for the conservation and development of fish and wildlife. An appropriate portion of the cost of the development shall be allocated as provided in said Act and it, together with the Federal operation and maintenance costs allocated to this function, shall be nonreimbursable.

SEC. 4. In locating and designing the works and facilities authorized for construction by this Act, and in acquiring or withdrawing any lands as authorized by this Act, the Secretary shall give due consideration to the reports upon the California water plan prepared by the State of California, and shall consult the local interests who may be affected by the construction and operation of said works and facilities or by the acquisition or withdrawal of lands, through public hearings or in such manner as in his discretion may be found best suited to a maximum expression of the views of such local interests.

SEC. 5. Nothing contained in this Act shall be construed by implication or otherwise as an allocation of water, and in the studies for the purposes of developing plans for disposal of water as herein authorized the Secretary shall make recommendations for the use of water in accord with State water laws, including but not limited to such laws giving priority to the counties and areas of origin for present and future needs.

SEC. 6. There is hereby authorized to be appropriated for construction of the Auburn-Folsom south unit, American River division, the sum of \$411,000,000 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 types of construction involved herein. There are also authorized to be appropriated such additional sums as may be required for operation and maintenance of the project and for future costs incurred under section 1 (2) of this Act.

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EXECUTIVE OFFICE OF THE PRESIDENT,  
BUREAU OF THE BUDGET,  
Washington, D.C., November 13, 1963.

HON. HENRY M. JACKSON,  
*Chairman, Committee on Interior and Insular Affairs,*  
*U.S. Senate, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request of January 24, 1963, for the views of the Bureau of the Budget on S. 351, to authorize the Secretary of the Interior to construct, operate, and maintain the Auburn-Folsom south unit, American River Division, Central Valley project, California, under Federal reclamation laws.

The purpose of the bill is stated in its title.

The Department of the Interior, in a letter to the committee, recommends certain changes and amendments to the bill. The Bureau of the Budget would recommend favorable consideration of S. 351, if amended in the manner proposed by the Department of the Interior and, if so amended, its enactment would be consistent with the administration's objectives.

Sincerely yours,

PHILLIP S. HUGHES,  
*Assistant Director for Legislative Reference.*

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U.S. DEPARTMENT OF THE INTERIOR,  
OFFICE OF THE SECRETARY,  
Washington, D.C., November 13, 1963.

HON. HENRY M. JACKSON,  
*Chairman, Committee on Interior and Insular Affairs,*  
*U.S. Senate, Washington, D.C.*

DEAR SENATOR JACKSON: This responds to your request for the views of this Department on S. 351, a bill to authorize the Secretary of the Interior to con-



struct, operate, and maintain the Auburn-Folsom south unit, American River division, Central Valley project, California, under Federal reclamation laws.

We firmly support the Auburn-Folsom south addition to the Central Valley project, and hopefully urge early enactment of legislation that will permit this vital project to get underway so its many benefits will begin returning a wide range of dividends to the United States.

This proposal is in the heart of rapidly growing California, constantly thirsting for more water and for additional electric power. It assures more water and additional low-cost power along with many other benefits in an area where population is increasing by leaps and bounds. Here water is an ever-precious commodity, where progress can be aided or impeded by the vagaries of seasonal precipitation.

Painstaking studies by the Department of the Interior begun immediately after the disastrous floods of 1955, reveal that this proposal not only is a model of multipurpose development, but also, is buttressed by a benefits-to-cost ratio of nearly 4 to 1—an exceptionally impressive margin which merits consideration by the Congress.

Many vital benefits would accrue. Among these are the raising of steadily sinking ground water tables, the addition of millions of additional kilowatt-hours of electricity annually to ever-growing power needs, the recapture and reuse of drainage water and the provision of water for industrial and municipal growth as well as for agriculture.

Further, there will be additional recreational benefits, enhancement of fish and wildlife habitat and, finally, additionally needed flood protection for Sacramento.

Auburn Dam, the key feature of this \$425 million multipurpose project, will block the American River about 30 miles northeast of Sacramento and will create a 2½ million acre-foot reservoir to store water for power, for municipal and industrial purposes, and for irrigation. Its basic generating plant of 240,000 kilowatts will add 613 million kilowatt-hours of electricity to the hydroelectric capability of the Central Valley project area. Even greater returns will be realized when the ultimate capacity of Auburn is expanded, under growing demands, to 400,000 kilowatts. The damsite is ideally located near gravel and other deposits to keep construction costs to a minimum.

From Auburn Reservoir will flow 390,000 acre-feet of water annually to meet municipal, industrial, and irrigation requirements in a region that features some of the most productive land in the world—if assured adequate moisture.

An accessory service of Auburn will be that of helping curb floods in the American River Basin area and the city of Sacramento. Additionally, its operation with existing Folsom and Nimbus Reservoirs will improve fishing and recreation.

Equally important, but not as spectacular as Auburn Dam, is the Folsom south canal on the American River downstream from Auburn. This 67-mile canal, curving through the rich east-side area of the Central Valley down to Stockton, would bring 852,000 acre-feet of water annually to serve nearly 400,000 acres in Sacramento and San Joaquin Counties, most of which is presently irrigated from wells where ground water tables are dropping. Local interests would be expected to build deep wells and other facilities to insure optimum use of water.

Some 420 acre-feet per day of water would funnel into municipalities for residential and industrial uses as the canal meets its dual-purpose role.

The fast-growing Foresthill Divide area, lying between the arms of the Auburn Reservoir, will benefit through construction of Sugar Pine Dam and Reservoir on Shitrtail Creek. Here will be provided municipal, industrial, and irrigation water for a mountain community of 5,000 acres which has no other foreseeable source of water. Again, additional benefits would result for recreation and wildlife.

The Folsom-Malby segment, rounding out the multiple-use features of the Auburn-Folsom project, lies between the American and Consumnes Rivers. This area, like others in the project, is burgeoning and requires more water for farms, some industry and suburban growth. The service area includes sections of western El Dorado County and eastern Sacramento County lying higher than the Folsom south canal. Accordingly, a pumping plant would be built at the existing Folsom Reservoir and a pipeline some 10 miles long would deliver water to the proposed County Line Reservoir on Deer Creek, near the Folsom-Malby service area. Through these facilities the municipal and industrial water would also be delivered. Here again there will be fish and wildlife benefits, important recreation benefits, and some minor flood control.



There is an urgency to the Auburn-Folsom south project as a logical next addition to the Central Valley project for many of the areas it will serve are plagued persistently by drought, while much needed water flows unused down the American and its tributaries. The State of California cannot undertake this merited project because of its tremendous obligation of \$1.7 billion in other critically needed water supply works.

Here is a project, however, that will assure continued growth and which counts as one of its strongest points the unusually high ratio of benefits to investment. In it, local interests will do their part to provide facilities essential to the Federal plan of action.

Traditionally, wide gaps of time always separate project authorization, appropriations, construction, and delivery of water. It is for this reason that I appeal for early authorization of Auburn-Folsom south unit of the Central Valley project.

The Central Valley project, an exceptionally valuable foundation stone in our Nation's economy, was authorized in 1937. But one of the main structures, the Friant-Kern Canal, did not carry its initial water until more than 15 years later. Contra Costa Canal, actually the first feature to be started, was not completed until 1948—11 years after authorization.

It is my opinion that because of the urgent water and power needs, the benefits to the State and to the Nation, and the leadtime between authorization and actual construction, we should move forward on this proposal as soon as possible. It is my hope that the Congress will agree that the Auburn-Folsom south unit is the next logical addition to the Central Valley project where the Federal Government has been so successful in making an investment in multiple-purpose projects which have in turn greatly enhanced the economy of the Nation.

I have appended a more extended statement concerning the project condensed from our reports to the Congress of January 15, 1962 (H. Doc. 305, 87th Cong.), and October 21, 1963 (H. Doc. 171, 88th Cong.). The statement also contains for this committee's consideration some suggested amendments to the bills, and the information required by Public Law 84-801. One of these amendments would make the authorizing legislation conform to the administration's recommendations recently submitted to the Congress with respect to allocation of costs to recreation and fish and wildlife.

The Bureau of the Budget has advised that enactment of legislation to authorize the Auburn-Folsom south unit would be consistent with the objectives of the administration.

Sincerely yours,

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

AUBURN-FOLSOM SOUTH UNIT, AMERICAN RIVER DIVISION, CENTRAL VALLEY  
PROJECT, CALIFORNIA

On October 21, 1963, the Department of the Interior transmitted to the Congress a supplemental report recommending modifications in the plan of development for the Auburn-Folsom south unit which our studies subsequent to completion of the January 15, 1962, planning report indicated to be desirable. The supplemental report also reflects the "Policies, Standards, and Procedures in the Formulation, Evaluation, and Review of Plans for Use and Development of Water and Related Land Resources," approved by the President on May 15, 1962 (S. Doc. 97, 87th Cong.) and the provisions of proposed legislation to provide uniform policies with respect to recreation and fish and wildlife benefits and costs of Federal multipurpose water resource projects, recently transmitted to the Congress.

The Auburn Dam, as recommended for construction in the supplemental report of October 21, 1963, would create a reservoir with a storage capacity of approximately 2,500,000 acre-feet; it would include a powerplant with an initial installation of 240,000 kilowatts and provision for subsequent expansion to about 400,000 kilowatts. After making allowance for all foreseeable upstream water requirements, the dam and reservoir would supply 390,000 acre-feet of water annually to fulfill the irrigation and municipal and industrial water supply functions of the unit and also provide additional flood protection to the American River Basin area and the city of Sacramento. The unit is expected to add 613 million kilowatt-hours annually to Central Valley project hydroelectric power generation. Operation of Auburn Reservoir in conjunction with the existing Folsom and Nimbus Reservoirs would also result in important improvements in fishery and recreation resources.



The Folsom south canal, as described in the Department's report of January 15, 1962, would provide means for conveying American River water for irrigation and municipal use in an area on the east side of the Central Valley extending from the American River southward to the city of Stockton. Some 852,000 acre-feet of water annually would be conveyed from natural flows of American River and from conservation yield of Auburn and Folsom Reservoirs to serve irrigation water to 398,000 acres in Sacramento and San Joaquin Counties. In addition to the distribution and drainage systems to serve the Folsom south area, a deep well development program estimated to cost \$1,566,000 would be required to insure coordinated use of surface and ground water supplies. Installation of the deep wells is considered to be the responsibility of local interests.

The Foresthill Divide area lies between the arms of the Auburn Reservoir which follow the north fork and middle fork of the American River. The plan of development involves construction of Sugar Pine Dam and Reservoir of 16,500-acre-foot capacity on Shirttail Creek, a pressure pipeline to a regulating reservoir, and an irrigation distribution system. It would provide irrigation, municipal, and industrial water service to a gross area of 5,000 acres and enhance fish and wildlife and recreation resources. The severe drought of the past few years has accentuated the need to alleviate existing water shortages and to provide for expanded irrigation and municipal and industrial water use in the Foresthill Divide area. The plan described above is compatible with plans contemplated by the Forest Hill Divide Public Utility District and the Placer County Water Agency.

The service area of the Folsom-Malby development lies between the American and Consumnes Rivers. This is a rapidly expanding area which includes sections of western El Dorado County and eastern Sacramento County at elevations higher than the Folsom south canal. The plan of development involves a pumping plant at the existing Folsom Reservoir, from which a 10.8-mile pipeline would deliver water to the proposed County Line Reservoir on Deer Creek, near the Folsom-Malby lands. Through these facilities a municipal and industrial water supply would be delivered to an area of about 12,000 acres. County Line Reservoir would also provide for fish and wildlife enhancement, recreation, and flood protection to downstream lands.

The Bureau of Reclamation is now engaged in feasibility studies of the initial phase, east side division, Central Valley project, which would involve major canals, reservoirs, pumping plants, and other facilities to provide water from the American and Sacramento Rivers to irrigate lands and supply the municipal and industrial needs of a large area on the east side of San Joaquin Valley extending southward as far as the city of Bakersfield. The northerly portion of the proposed east side canal would coincide with the Folsom south canal. By building the Folsom south canal initially to a capacity adequate to serve both the Folsom south unit and the east side division, substantial savings in construction cost of the east side division can be realized. The bills which have been introduced would provide authority for the Secretary to build the Folsom south canal to that capacity. We strongly endorse this economical approach.

The specific project features for which authorization is recommended are listed below with the current estimated costs:

|                                                        |                 |
|--------------------------------------------------------|-----------------|
| Main facilities:                                       |                 |
| Auburn Dam, Reservoir, and powerplant.....             | \$271, 161, 000 |
| Folsom south canal.....                                | 42, 095, 000    |
| Foresthill Divide development.....                     | 6, 977, 000     |
| Folsom-Malby development.....                          | 11, 266, 000    |
| Recreation facilities and lands                        |                 |
| Auburn Reservoir.....                                  | 10, 803, 000    |
| Sugar Pine Reservoir.....                              | 450, 000        |
| County Line Reservoir.....                             | 650, 000        |
| Fish and wildlife mitigation lands: Auburn-Folsom..... | 141, 000        |
| Subtotal.....                                          | 343, 543, 000   |
| Distribution and drainage systems:                     |                 |
| Folsom south area.....                                 | 43, 991, 000    |
| Foresthill Divide area.....                            | 96, 000         |
| Subtotal.....                                          | 44, 087, 000    |
| East side canal capacity.....                          | 23, 540, 000    |
| Total.....                                             | 411, 170, 000   |



Anticipated long-range requirements for peaking power make it advisable to design Auburn Dam and powerplant so that additional generating units may be installed when needed. Because of its location at the head of the 1 million acre-foot Folsom Reservoir, Auburn powerplant would be particularly well suited to generation of peaking power and possibly pump storage operation. We propose to provide necessary foundations and other facilities in the powerhouse for two future units at an additional cost estimated to be \$3,500,000. Detailed design studies may also indicate the desirability of initially installing an additional penstock at an estimated further cost of \$10 million. These estimated costs, totaling \$13,500,000 are not included in the cost estimate tabulation above. If included in the unit, they would raise the cost of construction to \$424,670,000.

Existing laws relating to the Central Valley project, particularly the act of October 17, 1940 (54 Stat. 1198), provide authority for the construction of distribution systems works. Although all or part of these systems may be built independently by local interests, the Congress should recognize that under existing laws the entire distribution complex may have to be built or financed by the United States.

Development of recreation facilities, including necessary land acquisition, is proposed at and near the Auburn Reservoir and other impoundments of the unit. The recreation plan prepared by the National Park Service and the Bureau of Outdoor Recreation is in conformity with the tenets of Senate Document 97, 87th Congress, "Policies, Standards, and Procedures in the Formulation, Evaluation, and Review of Plans for the Use and Development of Water and Related Land Resources." The plan provides for installation of basic recreation facilities and acquisition of recreation lands at Federal expense. It also indicates the facilities needed for optimum realization of the unit's recreation potential. The limit of justifiable project recreation expenditure was established through consideration of a least-cost, nonproject alternative recreation plan.

The costs of the Auburn-Folsom south unit are tentatively allocated among the functions of the development in accordance with the following table:

Reimbursable costs:

|                                                            |               |
|------------------------------------------------------------|---------------|
| Irrigation                                                 | \$169,880,000 |
| Municipal and industrial water                             | 29,446,000    |
| Commercial power                                           | 147,776,000   |
| Recreation and fish and wildlife enhancement <sup>1</sup>  | 17,521,000    |
| Subtotal                                                   | 364,623,000   |
| Deferred use (east side division)                          | 23,540,000    |
| <hr/>                                                      |               |
| Nonreimbursable costs:                                     |               |
| Flood control                                              | 9,691,000     |
| Fish and wildlife mitigation <sup>1</sup>                  | 141,000       |
| Recreation and fish and wildlife enhancement: <sup>1</sup> |               |
| (a) Lands and basic facilities                             | 12,044,000    |
| (b) Joint costs                                            | 17,956,000    |
| Subtotal                                                   | 39,832,000    |
| Total <sup>2</sup>                                         | 427,995,000   |

<sup>1</sup> As was mentioned earlier in this report, the administration recently submitted to the Congress proposed legislation to provide uniform policies with respect to recreation and fish and wildlife benefits and costs of Federal multipurpose water resources projects. The allocations to fish and wildlife enhancement and recreation which appear in the foregoing table have been assigned to the reimbursable or nonreimbursable category in accordance with the provisions of that proposed legislation. Under the provisions of the proposed legislation, all costs for land and basic facilities for recreation and fish and wildlife enhancement, together with joint costs allocated to those purposes—up to specified limits—would be nonreimbursable. Applying those provisions to the cost allocation for the Auburn-Folsom south unit has resulted in the assignment of \$30,000,000 of the costs allocated to recreation and fish and wildlife enhancement to the nonreimbursable category. Costs allocated to those purposes in excess of \$30,000,000 would be reimbursable with interest, and are so shown in the table. These costs total \$17,521,000. Because of the applicability of the Fish and Wildlife Coordination Act, allocations to fish and wildlife mitigation are nonreimbursable and are shown as such in the table, although those costs would be considered as a joint project cost to be allocated among all project purposes under the proposed legislation.

<sup>2</sup> This figure includes estimated construction costs of \$411,170,000, interest during construction of \$15,402,000, and power transfer costs for project pumping of \$1,423,000.



The proposed charges for municipal and industrial water would repay all costs allocated to that purpose with interest. Power and energy generated by the Auburn powerplant would be marketed through the Central Valley project at project rates. The irrigation water rates at canal-side would meet all costs of operation and maintenance of the works and contribute toward the capital costs allocated to irrigation.

Surplus revenues from power and municipal and industrial water sales of the entire Central Valley project would within 50 years repay the portion of the irrigation allocation of the project which is beyond the repayment capacity of the water users as well as the reimbursable portion of the fish and wildlife enhancement and recreation allocations, with a substantial surplus remaining in the project account.

Benefits from all sources have been determined. The economic justification for the unit is clearly established by the finding that the benefits exceed the costs in the ratio of 3.7 to 1.

We suggest that the following amendments be made to S. 351:

1. Page 3, line 16, capitalize the words "east side".

2. Delete section 3 in its entirety, and substitute therefor the following:

"Sec. 3. The Secretary is authorized as a part of the Auburn-Folsom South unit to construct, operate, and maintain or otherwise provide for basic public outdoor recreation facilities, to acquire or otherwise to include within the project areas such adjacent lands or interests therein as are necessary for present or future public recreation use, to allocate water and reservoir capacity to recreation, and to provide for the public use and enjoyment of project lands, facilities and water areas in a manner coordinated with the other project purposes. The Secretary is authorized to enter into agreements with Federal agencies or State or local public bodies for the operation, maintenance, and additional development of project lands or facilities, or to dispose of project lands or facilities to Federal agencies or State or local public bodies by lease, transfer, conveyance or exchange, upon such terms and conditions as will best promote the development and operation of such lands or facilities in the public interest for recreation purposes. The Secretary is authorized to transfer jurisdiction over project lands within or adjacent to the exterior boundaries of national forests and facilities thereon to the Secretary of Agriculture for recreation and other national forest system purposes. Where any project lands are transferred hereunder to the jurisdiction of the Secretary of Agriculture, the lands involved shall become national forest lands: *Provided*, That the lands and waters within the flow lines of any reservoir or otherwise needed or used for the operation of the project shall continue to be administered by the Secretary of the Interior to the extent he determines to be necessary for such operation. The costs of land and basic facilities for the purposes of recreation or the enhancement of fish and wildlife resources shall be nonreimbursable. Joint costs of the unit allocated to the purposes of recreation and fish and wildlife enhancement shall also be nonreimbursable up to an amount not to exceed \$18,000,000. Joint costs allocated to the purposes of recreation and fish and wildlife enhancement in excess of the foregoing limitation shall be reimbursable with interest from the date of first delivery of water or power from the unit at a rate comparable to that for other project functions."

This suggested amendment makes the authorizing legislation conform to the provisions of the administration's proposed legislation referred to earlier, deletes an unnecessary reference to the Fish and Wildlife Coordination Act, and allows for transfer of lands to the Secretary of Agriculture for administration as national forest lands in appropriate situations.

3. Page 4, line 3, delete the word "Dam" and substitute therefor the words "and County Line Dams".

This amendment is suggested in order to draw County Line Dam as well as Auburn Dam under the provision that requires operation for flood control in accordance with regulations established by the Secretary of the Army.

4. Page 6, line 11, change the figure "\$411,000,000" to "\$425,000,000".

This is to allow for an appropriation authorization sufficient to provide for the necessary foundations and the penstock which would be installed for expansion of the powerplant if found appropriate on the basis of postauthorization studies.

5. Section 5 of the bill is unnecessary and it should therefore be deleted.

The feasibility report of January 15, 1962, and the supplemental report of October 21, 1963, on the Auburn-Folsom South unit make adequate allowances for future water uses in the upstream foothill areas. If it is deemed essential to include assurances on this point in the authorizing legislation, we would have no



objection to substitution of the following language for the existing section 5: "SEC. 5. Before initiating any diversions of water from the American River Basin in connection with the operation of the Auburn-Folsom South unit, Central Valley project, the Secretary shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversions shall at all times be subordinate to the quantities so determined."

*Auburn-Folsom south unit, Central Valley project, California*

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

|                                                                             | 1st   | 2d     | 3d     | 4th    | 5th    |
|-----------------------------------------------------------------------------|-------|--------|--------|--------|--------|
| Estimated additional man-years of civilian employment: Executive direction: |       |        |        |        |        |
| Executive.....                                                              | 2     | 2      | 2      | 2      | 2      |
| Clerical.....                                                               | 2     | 2      | 2      | 2      | 2      |
| Total, executive direction.....                                             | 4     | 4      | 4      | 4      | 4      |
| Administrative services and support:                                        |       |        |        |        |        |
| Accountant.....                                                             | 5     | 8      | 11     | 12     | 12     |
| Clerical.....                                                               | 9     | 16     | 22     | 23     | 24     |
| Property management.....                                                    | 8     | 13     | 16     | 16     | 16     |
| Records maintenance.....                                                    | 5     | 8      | 8      | 8      | 8      |
| Total administrative services and support.....                              | 27    | 45     | 57     | 59     | 60     |
| Substantive (program):                                                      |       |        |        |        |        |
| Engineering aids.....                                                       | 38    | 84     | 120    | 120    | 120    |
| Engineers.....                                                              | 33    | 70     | 96     | 96     | 96     |
| Geologists.....                                                             | 5     | 7      | 9      | 9      | 9      |
| Total, substantive.....                                                     | 76    | 161    | 225    | 225    | 225    |
| Total, estimated additional man-years or civilian employment.....           | 107   | 210    | 286    | 288    | 289    |
| Estimated additional expenditures:                                          |       |        |        |        |        |
| Personal services (in thousands of dollars).....                            | 749   | 1,470  | 2,175  | 2,290  | 2,305  |
| All other (in thousands of dollars).....                                    | 4,403 | 10,931 | 24,557 | 45,446 | 55,946 |
| Total estimated additional expenditures (in thousands of dollars).....      | 5,152 | 12,401 | 26,732 | 47,736 | 58,251 |

Senator Moss. We are indeed pleased to have so many witnesses come from California to testify today. There are a large number. I am sure it will be necessary for many to summarize their statements and place a printed statement in the record if we are going to be able to hear from all of you, and we do want to, of course, hear from all who have come to testify.

I am pleased that Congressman Johnson and Congressman McFall are both here, and we will hear from them as soon as we have heard from Senator Kuchel.

Senator Kuchel.

**STATEMENT OF HON. THOMAS H. KUCHEL, A U.S. SENATOR FROM THE STATE OF CALIFORNIA**

Senator KUCHEL. Mr. Chairman, both California Senators and a number of our colleagues in the House of Representatives are honored to introduce into this session of the Congress the Auburn-Folsom south proposal.

This is truly a people's project. It represents a capital investment in the future of California and the Nation. It is a means by which, largely on a reimbursable basis, the people of the United States will assist the people of California in solving their continuing and growing problem of furnishing an adequate water supply to sustain not



alone the present economy of our State, but also to provide for a firm basis to sustain the future economy of an ever-growing Western State.

The witnesses who are here today are distinguished citizens of my State, who represent cities, towns, irrigation districts, other districts, and the State government as well, all of whom will join with the Department of Interior and the administration in recommending that this bill be enacted into law.

The benefit-to-cost ratio is outstanding, and I think in itself represents a great impetus for congressional approval.

I will now submit, for the inclusion in the record at this point, my prepared statement for the hearing.

(The statement referred to is as follows:)

PREPARED STATEMENT OF HON. THOMAS H. KUCHEL, A U.S. SENATOR FROM THE STATE OF CALIFORNIA

I am delighted to participate in this hearing to advance the legislation which Senator Engle and I, and five California Representatives in the House, are sponsoring to authorize the important Auburn-Folsom South project.

This is the fifth bill I have joined in bringing before the Congress regarding this particular unit of the American River division of the great Central Valley project—an undertaking which has meant, and will continue to mean, the difference between economic vitality and economic stagnation for northern and central California, just as the water development projects in operation on the Colorado River represent the same difference for southern California.

This hearing today is, I hope, the prelude to early favorable consideration of this legislation by this subcommittee, by the full Interior Committee, and by the Senate. I am confident of prompt passage by the Senate because of the encouraging events of last year on the predecessor bill, S. 103 of the 87th Congress. This subcommittee and the full committee, each without dissent, endorsed that bill.

On August 7, 1962, I reported the legislation to the Senate with the "do pass" recommendation of our committee.

The press of other legislative business prevented the bill from coming to a vote in the Senate last session. However, on October 8, 1962, as the session drew to a close, and it appeared impossible to fit the necessary action into the program which had been set for the few days then remaining, I engaged the Senate majority leader in a colloquy on the floor of the Senate. I asked Senator Mansfield the following question for the record:

"Assuming the Senate Committee on Interior and Insular Affairs repeats next year the action of this year and reports to the Senate a bill similar to S. 103, \* \* \* could the distinguished majority leader indicate whether or not he would look with favor upon having an early debate in the 1963 session on our most important California reclamation project?"

Mr. Mansfield replied:

"I not only would look upon the project with favor, but with approval. I shall do my best to bring the measure to the floor of the Senate as quickly as possible in the next session."

The majority leader then said that if I would do my part in this committee on which I serve, he would do his part in the policy committee and on the floor of the Senate to be of assistance.

My colleague, Mr. Engle, who, I regret, is unable to be here with us today—we all wish him a speedy recovery—participated in the colloquy. He joined me in my request for assurance from the Democratic floor leader. And Mr. Mansfield replied:

"The California Senators have my utmost assurance."

I merely recount that legislative history, Mr. Chairman, to show that this project has been well received in the past and should be similarly well treated now. It is in the urgent public interest of the people of my State.

Immediately upon completion of the drafting of the bill before us, which involved significant changes over the bill we reported out last year, Senator Engle and I introduced S. 351 on January 21, 1963.



The changes made in the legislation reflect the then-anticipated and now-approved, and submitted, project planning report of the Secretary of the Interior. That report, and this bill, envision a vast improvement in the project.

We now propose a more adequate, more beneficial reservoir of  $2\frac{1}{2}$  million acre-feet capacity, rather than one only two-fifths that size, as previously proposed.

An electric power generating capacity of 240,000 kilowatts initially with provision for expansion to 400,000 kilowatts would now be authorized. This compares to the formerly suggested capacity of only some three-eighths as great.

The Folsom South Canal, to run some 67 miles from existing Nimbus Reservoir below Folsom Dam and Reservoir, itself below the proposed Auburn Dam, all on the American River, would be built to a capacity sufficient not only to provide a vital supplementary water supply to the Folsom-South service area, including municipal and industrial needs in and around the city of Stockton, but also large enough to accommodate the needs of the long-awaited east side division of the Central Valley project—a logical next step in the continuing battle to supply water for a burgeoning population's growing needs in the face of limited, unreliable precipitation patterns and increasingly dangerous overdrafts on dwindling underground water supplies.

By providing for this increased incremental capacity of the Folsom South Canal, this measure would thus not only provide for service in El Dorado, Placer, Sacramento, and San Joaquin Counties, but would lay the most economical groundwork for service south through the valley to the counties of Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Kern, which will result from the east side extension of the canal—which extension and its attendant facilities are well along in the planning stage.

This bill would also authorize the Sugar Pine Dam and Reservoir for the Forehill Divide area—in compatibility with plans contemplated by the local public utility district and the Placer County Water Agency.

County Line Dam and Reservoir, also included in S. 351, together with the appurtenant diversion works, conduits and other necessities for water delivery, as with the aforementioned Sugar Pine Dam and Reservoir, would also provide multipurpose water development. The County Line facilities would serve a rapidly expanding area in western El Dorado and eastern Sacramento Counties.

The new, larger, and improved Auburn-Folsom-South project truly represents the best in multipurpose water projects. Its benefit-cost ration is now 3.70 to 1, rather than the former, itself outstanding, 3.25 to 1. This project is an outstanding investment. It will return not only the reimbursible allocation directly, but will generate gross product and additional tax revenues far exceeding in direct and indirect economic returns all possible direct and indirect costs.

But more important than that is the multiplicity of benefits which will accrue in human values enhanced by the beneficent results of this project. The new project plan anticipates more water conservation and supply, additional flood control, greater recreation possibilities, and broader fish and wildlife benefits. All these things mean a better life for people—now and for generations to come.

I have noticed the recently received suggested amendments by the Department of the Interior, concurred in by the Bureau of the Budget. I cannot comment on them at this time. I hope some witnesses today will address themselves to those suggested changes. I will want to interrogate the departmental witnesses on Tuesday concerning some of them.

Offhand, it would seem that the recommended increase in the amount authorized from \$411 to \$425 million, to provide now for the future additions to the powerplant at the Auburn Dam, is entirely in order.

I wish to extend a sincere welcome to the Californians here today—the Representatives from the House, and the many citizens from northern California who have traveled all this way to support the Auburn-Folsom south project—the next unit of the finest reclamation undertaking in existence—the Central Valley project, which I have been privileged to help in any way I could since entering public service some 27 years ago. You people do your communities a real service by coming here, and I, for one, thank you.

Senator KUCHEL. Let me add, Mr. Chairman, that I realize you have no further executive sessions of the subcommittee scheduled for the balance of the year and it will thus probably be impossible to report this bill out as soon as I would have wanted to. If the new project planning report had only been cleared by the Bureau of the



Budget a month or so earlier we perhaps could have completed Senate action on the bill this year. But I do hope we can move with it soon next year.

Senator Moss. Thank you, Senator.

Senator KUCHEL. I wish also to submit for the printed record at this point various communications I have received, editorials, et cetera. I understand all resolutions received by me as well as others will be included in the appendix.

(The articles referred to are as follows:)

SACRAMENTO CALIF., November 15, 1963.

Senator THOMAS KUCHEL,  
Senate Office Building,  
Washington, D.C.:

Auburn Folsom south project S. 351 has enthusiastic support of this association which comprises some 50 publicly owned utilities serving over 78 percent of California's citizens. Regard provisions in your bill providing for increase in generating facilities from 200 to 400 megawatts as highly important. Basic facilities for 400 megawatts should be installed initially; additional peaking capacity will be used and can be sold between 1975-80. We ask that this expression of our support of S. 351 and urging of additional generating capacity be incorporated into the record of the hearing before the Senate Subcommittee on Irrigation and Reclamation.

NORMAN E. WOODBURY,  
California Municipal Utilities Association.

SAN JOSE, CALIF., November 15, 1963.

Senator THOMAS KUCHEL,  
Senate Office Building,  
Washington, D.C.:

The Northern California Municipal Electric Association, an organization of 11 northern California cities which own and operate municipal electric power distribution systems, strongly recommends approval of the Interior Department's proposal for enlarged development of the Central Valley project's Auburn-Folsom south unit.

We support this enlargement because it will provide additional flood-control capacity and much needed water for the Central Valley project area as well as additional electric power for preference customers.

Current electrical load growth of existing preference power agencies in California will provide a ready market for both the initial 240 megawatts and the future 400 megawatts proposed in the enlarged plans.

We urge initial installation of basic project features which will make possible future expansion to 400 megawatt ultimate capacity. Such provisions are frequently made by both public and private agencies to hold the door open for future expansion of power facilities. We believe this ability to expand generating facilities as load develops is extremely important and is an excellent investment for the future. As the base electrical power load in California grows larger, low-load-factor peaking units will become increasingly more important and valuable.

We request that you have our views read into the public record.

LYELL CASH,  
City Manager, Ukiah, Calif.; President, NCMEA.

SAN FRANCISCO, CALIF., November 19, 1963.

HON. THOMAS H. KUCHEL,  
Subcommittee on Irrigation and Reclamation of Senate Committee on Interior and Insular Affairs, Senate Office Building, Washington, D.C.:

California Labor Federation, AFL-CIO, strongly supports passage of S. 351 to authorize the Auburn-Folsom south unit of the Central Valley project under provisions of reclamation law. This unit meets all requirements of feasibility



AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT 13

and is urgent to future development of California. It is our understanding that there is complete unity in State in support of S. 351.

THOMAS L. PITTS,  
*Secretary-Treasurer, California Labor Federation, AFL-CIO.*

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VISALIA, CALIF., November 19, 1963.

HON. THOMAS H. KUCHEL,  
*Senate Office Building, Washington, D.C.:*

Visalia City Council passed resolution last night supporting construction of the Auburn-Folsom south canal unit with provisions for enlargement for east side use as soon as possible.

JEAN S. BANKS, *City Clerk.*

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SAN JOSE, CALIF., November 18, 1963.

HON. THOMAS H. KUCHEL,  
*Washington, D.C.:*

Strongly urge prompt support for S. 351 introduced by California Senators Engle and Kuchel.

SANTA CLARA COUNTY CENTRAL LABOR COUNCIL.

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SACRAMENTO, CALIF., November 15, 1963.

Senator THOMAS KUCHEL,  
*Senate Office Building, Washington, D.C.:*

California State Grange supports Senate bill 351 authorizing Federal construction and Secretary of the Interior operation and maintenance Auburn-Folsom south unit, American River division, Central Valley project under Federal reclamation law.

J. B. QUINN.  
*Master, California State Grange.*

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KINGS COUNTY FAMILY FARMERS,  
*Hanford, Calif., March 8, 1963.*

Senator THOMAS KUCHEL,  
*Senate Office Building,  
Washington, D.C.*

DEAR SENATOR KUCHEL: We support you in getting the passage of your and Senator Engle's Senate bill 351 to authorize the Auburn-Folsom south unit, American River division, Central Valley project in accordance with Federal reclamation laws. We look forward for water from the east side canal to supply us, as our underground water is disappearing. We have the largest number of family farmers in Kings County who own and live on their farms. We depend on most of our water to irrigate by pumping from the underground.

Please do everything you can.

Please enter this letter in the record of your hearings.

Thank you,

MRS. MARY E. MENDES, *Chairman*

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KINGS COUNTY FAMILY FARMERS,  
*Hanford, Calif., November 15, 1963.*

Senator THOMAS KUCHEL,  
*U.S. Senate Office Building,  
Washington, D.C.*

DEAR SENATOR THOMAS KUCHEL: We have sent a copy of the letter which is enclosed to Senator Frank E. Moss on Senate bill 351.

We appreciate very much your efforts and Senator Clair Engle's for fighting hard to get this authorization for \$411 million of the Auburn-Folsom south unit



14 AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT

of Central Valley project. The east side will help us to continue living on our farms, at a price farmers can afford.

Thank you for your part to bring this about.

Sincerely,

MARY ELIZABETH MENDES, *Chairman*

[Enclosure]

*Hanford, Calif., November 15, 1963.*

*To Senator Moss and Members of Subcommittee:*

The Kings County Family Farmers urges the support for Senate bill 351 to authorize the Secretary of the Interior to construct, operate, and maintain the Auburn-Folsom south unit of American River division, Central Valley project under Federal reclamation laws.

This project will bring water and power to us through the Eastside Canal. It is the greatest most needed project to replace water for irrigation which the underground supply is disappearing.

The east side area of the San Joaquin Valley has the greatest number of family-size farms which has contributed the largest portion of California agricultural products such as fruits, nuts, vineyards, vegetables, cotton, grain, alfalfa, hay, pasture; on livestock are dairies, beef, sheep, hogs, and poultry.

We fear without this very much needed water, this part of the valley can dry up and become a desert for windstorms and dust.

It has become green and beautiful on areas where projects have been supplying water. There is no words to explain how wonderful it is, when a farmer can turn on his headgate to irrigate his crops whenever needed and there is enough water to use.

Our schools and colleges are crowded with young people who will have to develop more family-size farms. They cannot all be crowded in the cities seeking employment. This project will provide more employment, develop more rural homes, recreation, parks, and industry. It will not cause a surplus when there is too many people still hungry.

We urge the committee not to hesitate in the authorization for \$411 million for Auburn-Folsom south unit of Senators Clair Engle's and Thomas Kuchel's Senate bill 351.

Thank you.

KINGS COUNTY FAMILY FARMERS,  
MARY ELIZABETH MENDES, *Chairman*.

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SACRAMENTO CITY COUNTY CHAMBER OF COMMERCE,  
*Sacramento, Calif., November 12, 1963.*

HON. THOMAS H. KUCHEL,  
*U.S. Senator,  
Senate Office Building,  
Washington, D.C.*

DEAR SENATOR KUCHEL: On February 5, 1962, the Sacramento City-County Chamber of Commerce officially endorsed the Bureau of Reclamation's Auburn Dam project for a 1 million acre-foot dam.

Since that time, the people of Placer County, Calif., have revised their plans for the construction of a smaller multiuse project of their own above the Auburn Dam site.

The Placer County Water Users Association, the city of Sacramento, county of Sacramento, and other private groups and governmental agencies are now in full support of the enlarged multipurpose dam, which will not only more than double the water to be conserved, but will provide an enlarged recreational use for this rapidly growing section of California, plus giving the assurance of added protection against floods in the Metropolitan Sacramento area.

We, therefore, strongly urge the Senate Committee on Interior and Insular Affairs to support the Bureau of Reclamation plan for a 2½ million acre-foot Auburn Dam.

Sincerely,

ROBERT G. WEST, *President*.



[From the Sacramento Bee, Feb. 4, 1963]

#### AUBURN IS GILT-EDGED DAM PROJECT FOR UNITED STATES

Seldom if ever has Congress been asked to authorize a water conservation project which would serve so many purposes or represent such a gilt-edged proposition for the Federal Government as Auburn Dam on the American River.

A bill for the \$411 million water and power project has been introduced by U.S. Senator Clair Engle, of California, and joined in by Senator Thomas H. Kuchel.

Companion legislation is being sponsored in the House by Congressmen John E. Moss, Harold Johnson, John McFall, B. F. Sisk, and Harlan Hagan, representing California's interior counties from the Techachapi Mountains to the Oregon line.

The Auburn unit would be the largest single addition to the Central Valley project since its inception in the 1930's.

It would provide additional flood control for Sacramento and the delta area. It would supply water to the vast and growing defense and industrial complex in eastern Sacramento County. It would furnish irrigation water immediately for Placer, El Dorado, Sacramento, and San Joaquin Counties and ultimately along the east side of the San Joaquin Valley all the way to Kern County.

In addition it would have power plants with a 400,000 kilowatt capacity to supply electricity for irrigation pumping and to meet the growing list of unsatisfied calls for CVP power. Throw in the recreational advantages which would be created and it well can be said few projects would do so much for so many.

The decision to increase the size of the proposed Auburn Reservoir from 1 to 2.5 million acre-feet is a wise one, not only for the wider benefits which would accrue but also because the larger reservoir by any measure would be more economical.

At the contemplated 2.5 million acre-foot size it would have the fantastic benefit ratio of 4.3 to 1, an engineering scale which places it far ahead of Shasta or any of the other reservoirs comprising the Central Valley project.

This is the only major water project proposed for California which is due to come before Congress this session. In view of the rapidly growing water requirements for the State and the wide area this undertaking would serve, its authorization by Congress should be a matter of course. It is a project which is certain to be built ultimately and it is only good business and in the public interest that it be authorized now, the sooner to be put to work for the people and the sooner for the Government to begin realizing its benefits.

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[From the Fresno (Calif.) Bee, Apr. 29, 1963]

#### HIGH LEVEL AUBURN DAM WOULD MEET BIG NEEDS

Secretary of the Interior Stewart L. Udall's recommendation for a high level, 2.5 million acre-foot reservoir on the North Fork of the American River near Auburn should spur action by Congress to authorize this project so urgently needed for the lower Sacramento Valley and the long-range water requirement of the San Joaquin Valley.

In urging this larger project than the one originally proposed the Interior Secretary stated:

Continuing studies of the Central Valley project make it imperative that we develop the American River to its optimum.

In fact, anything short of the optimum development would be wasteful of one of the Nation's most precious resources, water. The larger dam would store more water for irrigation and domestic and industrial uses, generate more electric power, and provide greater recreational facilities. And there is no one who will disagree that every drop of water, every kilowatt of electricity, and every recreational facility which can be developed will be needed in California.

What should appeal to the hard-fisted Members of Congress is that Udall's report gives the Auburn project a benefit ratio of 4 to 1, making it one of the outstanding projects from the standpoint of financial feasibility in the entire reclamation complex.



Udall also recommends the construction of the subsidiary Malby Reservoir in Western El Dorado County and the Folsom south canal to provide water for the industrial facilities in eastern Sacramento County and irrigation along the east side of the valley from Auburn to Bakersfield.

The Army Engineers and the State still must give their views on the project and they should act promptly to clear the deck for action by Congress without undue delay. The need for the project is great today. It will be much greater by the time it is completed even if it is authorized at this session of Congress.

Senator Moss. We are pleased to have Congressman Harold "Bizz" Johnson with us.

We are always glad to have you before us, "Bizz," and we welcome you here this morning for your statement.

**STATEMENT OF HON. HAROLD T. (BIZZ) JOHNSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA**

Mr. JOHNSON. Thank you, Mr. Chairman.

First I want to say that we are very much pleased with the action of your subcommittee in allowing us to have this hearing, and the opportunity to bring this project before the Senate.

I want to join my very fine colleague in the Senate, Senator Kuchel, in his statement. I think he has made a very fine statement in regard to the Auburn-Folsom south project.

I want to say that I myself am very much in support of Senate bill 351.

I have a prepared statement I would like to submit for the record and have printed in full. The major portion of this project lies within my congressional district.

Senator Moss. That certainly will be done. The statement in full will go into the record at this point.

(The statement referred to follows:)

**PREPARED STATEMENT OF HON. HAROLD T. "BIZZ" JOHNSON, A U.S. REPRESENTATIVE FROM THE STATE OF CALIFORNIA**

Mr. Chairman, when I appeared before this committee at its February 1962 hearing on behalf of the Auburn-Folsom south unit, I mentioned that I have been actively engaged in the development of the American River watershed for more than two decades.

In that time, I have seen what the river can do—and what it cannot do—and have seen the havoc which its unchecked waters can create. I have had an excellent opportunity to assess the potential which has been lost when that same water wastes uselessly into the ocean without being put to use for irrigation, for domestic and industrial use, or for power production.

In the later years, I have seen the beneficial effects of partial regulation of the American River achieved by the Federal Government and local government, working together. This experience has convinced me that the only true solution to the national and local problems which still confront us on that watershed today lies in developing the stream and its watershed as rapidly as our resources, human, technical, and financial resources, will permit. For that reason, I am here today supporting S. 351, introduced by our two U.S. Senators from California; Senator Thomas Kuchel, who is a member of this committee, and Senator Clair Engle, both of whom have worked long and hard for the development of the Auburn-Folsom south project.

I mentioned above the national and local problems which still confront us on the American River watershed and the service area for this project, and I would like to touch briefly on these problems.

First of all, there is a need for a future annual irrigation supply of 713,000 acre-feet of water to serve agricultural demands in Sacramento and San Joaquin Counties. Auburn Reservoir, operated in coordination with the existing Folsom



Reservoir, will provide this water supply. I might note here, Mr. Chairman, that the specialty crops generally grown in this service area are not in surplus, nor are they grown elsewhere in the Nation, so by developing this irrigation water supply, we are not creating any additional strain or competition upon our Nation's farm markets.

Without minimizing the importance of the agricultural benefits accruing from construction of this project, I also would like to point out that the benefit-cost ratio—an impressive 4 to 1—is so great that it would be favorable even without the agricultural benefits computed, such is the tremendous demand for domestic and industrial waters, flood control, and recreation.

In commenting upon the needs for municipal and industrial water, I would like to point out that we have here an area of nearly a million people, many of whom are dependent upon ground sources for domestic water supply. Water tables are sinking steadily. This trend must be reversed, and would be with the development of the Auburn-Folsom south project. Studies show that 139,000 acre-feet of water can be made available annually for municipal and industrial purposes when Auburn Reservoir is integrated into the Central Valley project.

As you know, demands for electrical energy are increasing daily, even where we have a static population, such is the growth of our electronic technology. Wherever we have a growing population and a growing industrial and commercial complex such as we have in this area, the demands for electrical energy skyrocket. This is especially true in this region because of the diversification of the industrial development. In addition to the more traditional food processing and manufacturing plants, such as canneries, meat and poultry dressing and packing plants, evaporated milk plants and wineries, we have manufacturing of machinery, sheet steel and wood products, Aerojet General Corp., and Douglas Aircraft Co. have extensive facilities for missile and rocket research, testing, and manufacturing. All consume great amounts of electrical energy and industrial water. The demand for power has doubled in this area in a single decade, and is continuing to expand at twice the rate of population growth.

The 690-foot high dam, which would create a reservoir of 2.5 million acre-feet capacity, makes an excellent head for power generation. This will permit an initial installation of 240,000 kilowatts and capacity for future additions. This energy will be put to work as soon as it is available.

In a single flood in December 1955, Folsom Reservoir "paid for itself," so to speak, in the amount of damage prevented in the city of Sacramento, State capitol of California, and home of the Sacramento State College. This happened only because Folsom water levels were unusually low due to a long drought proceeding the floods, chances are this would never happen again. With construction of Auburn, the city of Sacramento, a community of more than half a million people, would not be dependent upon the whims of fate to repeat themselves under similar circumstances. The American River watershed would be controlled and its water resources would be put to complete beneficial use.

One final requirement which should be mentioned is recreation. Folsom Reservoir last year experienced a recreation use of  $2\frac{1}{4}$  million visitor days. Estimates are that Auburn will equal this record in its first year of operation.

Mr. Chairman, up to this point, I have been addressing myself to the needs for the basic Auburn Reservoir and the Folsom south canal. There is included in this package two other units of equal importance to the areas which they serve—the Folsom Malby Canal and the Foresthill Divide unit.

First of all, the Malby region is located adjacent to one of the Nation's largest aerospace industrial complexes, but its development has been prevented by the lack of adequate water supplies. This gross deficiency has had an adverse effect upon the growth of the scientific industrial development and the related residential and commercial complex. This unit is expected to develop about 24,000 acre-feet of water annually and eventually will serve some 40,000 people.

The Foresthill Divide is in the heart of a recreational area in which there also is situated a sizable lumber industry. It is expected that a water supply of 4,400 acre-feet annually could be developed. Residential development amounting to approximately 19,000 acres is ready to proceed in the areas once adequate water is available. This development is urgently needed.

While both of these projects are considered as part of the whole, each could very well stand on its own from a benefit-cost standpoint. The benefit-cost ratio for Folsom-Malby and Foresthill Divide areas are 2.1-to-1 and 1.9-to-1, respectively.

I personally place special emphasis on these two units of the overall project as well as the basic Auburn Reservoir unit, which will make possible the proper



diversion of water for the locally financed \$92 million development on the Middle Fork of the American River. This is because these all will serve the mountain counties of origin of our precious water supplies. We must assure that the mountain counties, from which our water flows, do participate in the benefits of these resources, both by insuring that adequate amount of water are set aside for their potential development, and by actually funding these projects so that they can achieve the tremendous potential which exists there today.

Mr. Chairman, in conclusion, I would like to quote briefly from Secretary Udall's letter of transmittal of the legislative report on this project:

"There is an urgency to the Auburn-Folsom south project as a logical next addition to the Central Valley's project, for many of the areas it will serve are plagued persistently by drought, while much needed water flows unused down the American River. The State of California cannot undertake this merited project because of its tremendous obligations of \$1.7 billion in other critically needed water supply works.

"Here is a project, however, that will assure continued growth and which counts as one of the strongest points the unusually high ratio of benefits to investment. In it, local interests will do their part to provide facilities essential to the Federal plan of action."

Mr. Chairman, local interests, indeed, will do their part. Here is a project in which there is nothing but strong support at the local level. The local people will appear before you to express their support. The engineers and technical people have done their work, and will present their results to you, Mr. Chairman. It will remain for the committee to assess the project and consider its merits. I think it is a good project. I urge your favorable consideration.

Mr. JOHNSON. I also have another statement here. The Valley Congressmen, Congressmen John E. Moss, Bernie Sisk, Harlan Hagen, John McFall, Jeffrey Cohelan, Robert L. Leggett, and George Miller, have a joint statement they would like to have placed in the record at this point.

Senator Moss. That will be printed at this point.

(The statement referred to follows:)

JOINT STATEMENT OF HON. HAROLD T. JOHNSON, JOHN E. MOSS, BERNIE SISK, HARLAN HAGEN, JOHN J. MCFALL, JEFFERY COHELAN, ROBERT L. LEGGETT, AND GEORGE MILLER, CONGRESSMEN FROM THE STATE OF CALIFORNIA

Mr. Chairman, we wish to thank you for the opportunity of presenting this joint statement in support of the Auburn-Folsom south unit of the Central Valley project.

We are the sponsors of the House bills to authorize this important project, H.R. 2411, H.R. 2420, H.R. 2430, H.R. 2499, and H.R. 2679. We, of course, strongly endorse the Senate bill which your committee is considering, S. 351, introduced by Senators Kuchel and Engle.

Congressman Johnson of California, who is presenting this statement on our behalf, is making an independent statement which sets forth comprehensively the details of the proposed Auburn-Folsom south project and the urgency for an early construction start. In addition, you will have numerous witnesses before you who will explain the planned development, demonstrate its workability and point out its many benefits. We will therefore limit our remarks in the interest of time.

For the record, it should be stated that each of the districts which we represent will derive benefits from this project. The Auburn Dam as proposed would be located in the district represented by Congressman Johnson and his area would acquire much needed irrigation water. The city of Sacramento, which Congressman Moss represents, would be protected from floods from the American River and portions of Sacramento County would receive irrigation benefits. San Joaquin County, represented by Congressman McFall, is within the contemplated water service area. The interest of Congressman Sisk (Merced, Madera and Fresno Counties) and Congressman Hagen (Tulare, Kings, and Kern Counties) derives from the proposed ultimate East Side extension, which would eventually convey water for irrigation purposes as far south as Bakersfield.

The committee is well aware of the dire need of California for additional water for irrigation and domestic purposes. Most of the State has been water deficient for years and the situation has worsened recently as a result of the rapidly



increasing population. In the contemplated service areas underground water tables are depleting annually and there is a demonstrated need for water to halt or reverse such depletion by the provision of supplemental surface water supplies as a substitute source and for recharge.

It should be emphasized that the agricultural commodities which will benefit from this project are principally specialty crops, which are not price supported or regularly in surplus supply.

The Auburn Dam would provide a reservoir on the American River with a storage capacity of 2,500,000 acre-feet at an estimated cost of \$425 million. It would be constructed of earth, gravel, and rock and would consist of approximately 63 million cubic yards of embankment. The Folsom south canal would extend into San Joaquin County and would have a maximum capacity of 7,000 cubic feet per second.

This design capacity would permit future use in meeting the water needs of the east side of the central and southern San Joaquin Valley. Feasibility studies of the contemplated east side division are currently being made by the Bureau of Reclamation. Under the Bureau's plans the east side canal would be an extension of the Folsom south canal. The construction of the Folsom south canal of a capacity sufficient to serve both the Folsom unit and the east side division will result in savings in the overall Auburn-Folsom south-east side division project although the east side division itself will require separate authorization.

We would like to emphasize that the ratio of benefits to cost is 4 to 1, which is extremely favorable. Collateral benefits in addition to irrigation will include recreation, fish and wildlife preservation, flood control, and the development of hydroelectric power which will help defray the cost of the project.

The importance of early authorization of this project cannot be over-emphasized. Historically, there is a lengthy time lag between authorization of a project of this nature and the delivery of water. The Friant-Kern Canal, an integral feature of the Central Valley project, did not carry water until 15 years after the project was authorized. The Contra Costa Canal, similarly a feature of the Central Valley project, was not completed until 11 years after authorization.

We respectfully urge, Mr. Chairman, that this authorizing legislation be reported as soon as possible.

Mr. JOHNSON. Mr. Chairman, you have a very fine group from California here this morning, and I am sure they are going into all details of the project. I will not say any more nor take any more of your time.

We do hope that your subcommittee will give favorable consideration to this project. It is a very large project and a very important project to the State of California.

Senator Moss. Thank you very much, Congressman Johnson.

I notice that you entered a statement for Congressman McFall. He is not going to appear in person, then, I take it. Or is he?

Mr. JOHNSON. No. I do not think he is here.

Senator Moss. Thank you very much. We do appreciate your appearing and giving us that statement and also bringing the statements of your colleagues, who have a part of the valley in their districts.

Is Congressman Hagen here?

Do you intend to give a statement?

Mr. HAGEN. No, I am a party to the joint statement that Congressman Johnson submitted.

Senator Moss. Thank you very much, Congressman Hagen.

Senator Engle, the chief author of the bill before us, is unable to be here this morning, but his assistant, Phil Dickinson, is here.

We are very happy to recognize you, Phil, to present a statement in behalf of Senator Engle.



# STATEMENT OF PHILIP P. DICKINSON, TECHNICAL ASSISTANT TO SENATOR CLAIR ENGLE, OF CALIFORNIA

Mr. DICKSON. Thank you, Mr. Chairman.

I am Philip Dickinson, a civil engineer from Sacramento, and technical assistant to Senator Engle, of California.

Mr. Chairman, the Senator asked me to convey his greetings to you and to his good friends here in this committee today, and to express his regret that he cannot be here in person, and to thank you for giving your consideration at this time to S. 351, which he considers to be the most important legislation of the 88th Congress.

You gentlemen know that our great Central Valley project is made up of many units. It is a growing thing. It is planned for expansion to meet the growing population of California and our increasing water requirements.

I would just like to note that Clair Engle, as a Congressman and as a Senator, has been the author or cosponsor of every authorized addition to the Central Valley project since the original base project was built about a quarter of a century ago. Senator Engle now is the author, with the cosponsorship of his distinguished colleague, Senator Kuchel, of the legislation before you to authorize the Auburn-Folsom south unit.

I talked to the Senator personally last week about Auburn-Folsom. As you know, and as you have already indicated, he is convalescing at his home. This is a subject close to his heart, and he let me know it. He directed me to present to you his statement.

With your permission, sir, I would like to read it for him.

Senator Moss. You may do that.

## STATEMENT OF HON. CLAIR ENGLE, A U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator ENGLE. Mr. Chairman, I can afford to be modest in testifying in support of my bill, S. 351. That is because the Auburn Dam-Folsom South Canal plan literally speaks for itself. The Secretary's new engineering feasibility report shows that it has a benefit-cost ratio of 3.7 to 1.

That means for every dollar of Federal investment required to add this unit to the Central Valley project, the unit will produce \$3.70 in direct benefits. These benefits will be in supplemental irrigation, municipal water supplies, hydroelectric power, flood control, reservoir recreation, fishery improvement, and wildlife enhancement.

While accomplishing all this, the project will pay all annual operation and maintenance costs. It will return to the Treasury the capital investment in commercial power and in municipal water supply with interest. It will return to the Treasury the capital investment in irrigation without interest, pursuant to reclamation law.

It will build up an adequate reserve for facility replacement.

Finally, in 50 years of operation, it will earn over \$400 million in surplus revenues which amount also goes to the Treasury as profit on the Folsom south investment. I think that is a pretty good bargain.

To save the committee's time, I will leave it to the Department of the Interior witnesses to describe in detail what the Auburn-Folsom unit is and how it will work. I will leave it to my good California con-



stituents who are here representing responsible State and local agencies to tell you what the project will do for them and why they want it. There are a few special points I want to direct to your attention myself.

One is in respect to flood control. The existing Folsom Reservoir, downstream from Auburn, already provides a measure of flood control on the American River. Part of this storage responsibility, that is, the reserved space for flood control, will be transferred from Folsom up to Auburn. But Auburn Reservoir will do more than that.

I would like to refer the committee to another recent engineering report issued as a matter of routine duty by the Army Corps of Engineers district office in Sacramento. It is entitled "Report on American River Flood Plain," dated March 1963. This report, on page 9, says:

Auburn Reservoir is expected to reduce the frequency of 115,000 cubic feet per second flow in the American River, between Folsom Dam and the Sacramento River, from about once in 10 years, with present Folsom regulation, to about once in 20 years.

In other words, with Auburn we could expect a damaging flood at that stretch of the river only every 20 years or so, instead of every decade.

Well, where the American River meets the Sacramento River is the location of the city of Sacramento. And to cut in half the present American River flood hazard to the capital city of California will be a real accomplishment. It is a significant Auburn Dam benefit that has not had adequate attention.

Another special pitch I want to make is for the smaller reclamation units proposed for authorization in S. 351. These are Sugar Pine Reservoir, to provide water to the Forest Hill Division area of Placer County, and County Line Reservoir, to provide water to the Folsom-Malby area of Sacramento and El Dorado Counties.

The engineers will give you the details. I just want to say that these units are needed, and are justified as integral parts of the Auburn-Folsom development.

Finally, a very important feature of this bill is the provision to authorize construction of the Folsom South Canal at an enlarged capacity, somewhat more than is needed for the initial service area in Sacramento and San Joaquin Counties.

I am confident that in due course the canal will be extended south, eventually to serve additional lands in Stanislaus, Merced, Fresno, Tulare, and Kern Counties. Adequate provision should be made now to make this possible.

I am pleased, Mr. Chairman, that the White House last week advised me of the administration's endorsement of this legislation.

I thank you again for giving us this opportunity to present our case. Again I commend to your consideration the specific justification that will be submitted by the qualified witnesses who have come here from California in support of the bill.

MR. DICKINSON. That is the end of Senator Engle's statement, Mr. Chairman.

I have been asked to present to you, to submit for the record, a good statement presented by the California Farm Research and Legislation Committee, for inclusion at the appropriate place. I have five copies.

Senator Moss. That may go into the record following the statement of Senator Engle.



(The statement referred to follows:)

STATEMENT OF MRS. GRACE McDONALD, EXECUTIVE SECRETARY, CALIFORNIA FARM RESEARCH AND LEGISLATIVE COMMITTEE

Senator Moss and members of the subcommittee, the California Farm Research and Legislative Committee, through the courtesy of the office of Senator Clair Engle, urges prompt support for S. 351 introduced into the 88th Congress January 21, 1963, by California's two senators, the Honorable Clair Engle and the Honorable Thomas H. Kuchel, a member of the Subcommittee on Reclamation.

Since the Central Valley project was originally authorized for Federal construction and development under provisions of reclamation law, our committee has worked unceasingly for its step-by-step expansion and completion.

In looking back over these years, we note that the hinge on which S. 351 rests, Folsom Dam, was authorized by the 80th Congress under legislation, H.R. 165, introduced in 1949 by then Congressman Clair Engle. As we noted in testimony in support of S. 103, a forerunner of the measure before you, it took the combined forces of U.S. Senators and Representatives 14 years to steer this project to its present form, enlarged from last year's 1 million acre-feet storage reservoir—a high dam on the upper American River near Auburn, to the present 2.5 million acre-feet capacity.

This breadth of vision, in line with constantly growing population and water needs, attests to the awareness, not only of the authors of this measure, but to the realization implicit in Bureau of the Budget approval of the approximate sum of \$411 million appropriation to construct the Auburn-Folsom south unit.

In addition to the high dam, our committee urges authorization of the full development called for in S. 351:

A 240,000-kilowatt powerplant at the base of the dam;

Transmission lines to connect with the central valley project power system at Tracy;

A 67-mile Folsom south canal to deliver water to lands in the service area in Sacramento and San Joaquin Counties.

Our committee has members dependent on irrigation in the entire service area of the contemplated project, including the Foresthill Divide area of Placer County to be served by Sugar Pine Reservoir, and the Folsom-Malby area in Sacramento and El Dorado Counties to be served by the proposed County Line Reservoir, both considered auxiliary units.

The action of your subcommittee in scheduling these hearings so that the full committee and the 88th Congress may have before them the necessary information to speedily authorize this vital project, is, we believe, in line with the recognized need for stimulating our overall economy, increasing the number of jobs available to too many workers now unemployed. It is a recognition that our water resources, left unharnessed and wasted into the sea, threaten a food supply which is not only required by California's booming population, but for an entire world in far to many areas of which the per capita consumption of nutrients has fallen below pre-World War II figures.

It is, moreover, a recognition that agricultural production carries with it buying power for a whole series of industries from producer to consumer and is probably the greatest stimulator to a well-balanced rural-urban economy that exists today in our technologically efficient productivity.

In spite of the impact of urbanization, California farmers have met the challenge of providing food and fiber for our city people. Forced out of many central coastal areas, they have relocated in the central valleys where they are ever more dependent on an adequate water supply. The charts attached to this statement show the increase in population by county and city in the service area of the proposed Auburn-Folsom south unit, American River division of the central valley project for the years 1950-60. They also show the projected increase of population in four major cities in this service area projected to the year 2000. Percent increases for Sacramento is 207.8 percent; for Bakersfield, 203.5 percent.

A great deal of publicity fills the pages of the press on the subject of expanding farm surpluses with resulting apprehension on the part of city people to support Federal projects which would increase irrigated farm acreage.

In the case of the Auburn-Folsom south service area, at least, there need be no such apprehension.

Only 245,000 acres of the 518,400 acres within the 55-mile rectangle from the American River in Placer and El Dorado Counties on the north to Lone Free Creek in San Joaquin County on the south are now irrigated.



Much of the dry area is now used for pasture and small grains, whereas such cash crops as grapes, deciduous fruits, beans, tomatoes, and other truck crops are neither in surplus nor supported. Urbanization is bound to make further inroads on acreage used for such crops requiring their transfer to the valley.

Legislation to authorize the Folsom south canal has been pending since the second session of the 84th Congress in 1956. This is one of the most highly feasible projects on the drawing board as to direct benefits. We urge your "do pass" recommendation on S. 351.

The California Farm Research and Legislative Committee was established in February 1941 as an informal, nonprofit, voluntary group of farmers and cooperating civic, labor, and church members directed by representatives of affiliated bargaining associations, farmer cooperatives, and various civic organizations dedicated to the preservation of California farmers as independent owner-operators and a democratic rural economy.

Since an adequate water supply is imperative to such preservation, our committee has, for more than 22 years, been in the forefront of educational and legislative campaigns to provide a widely distributed water supply at a cost within the reach of the majority of farm families who own and operate their own commercial enterprises.

This statement is presented with the conviction that enactment of S. 351 is in the best interests of our membership, of the people of California and of the Nation as a whole.

#### CHART I

*Increase in population by county and city in the service area of the proposed Auburn-Folsom south unit, American River division, Central Valley project, California*

|                         | 1950    | 1960    | Percent increase |
|-------------------------|---------|---------|------------------|
| Placer County.....      | 41,649  | 56,998  | 36.9             |
| Roseville.....          | 8,723   | 13,421  | 53.9             |
| Sacramento County.....  | 277,140 | 502,778 | 81.4             |
| Galt.....               | 1,333   | 1,868   | 40.1             |
| Sacramento.....         | 137,572 | 191,667 | 39.3             |
| North Sacramento.....   | 6,029   | 12,922  | 114.3            |
| San Joaquin County..... | 200,750 | 249,989 | 24.5             |
| Lodi.....               | 13,798  | 22,229  | 61.1             |
| Stockton.....           | 70,853  | 86,321  | 21.8             |
| Madera County.....      | 36,954  | 40,468  | 9.5              |
| Madera.....             | 10,497  | 14,430  | 37.5             |
| Fresno County.....      | 276,515 | 365,945 | 32.3             |
| Fresno.....             | 91,669  | 133,929 | 46.1             |
| Selma.....              | 5,964   | 6,934   | 16.3             |
| Tulare County.....      | 149,264 | 168,403 | 12.8             |
| Dinuba.....             | 4,971   | 6,103   | 22.8             |
| Visalia.....            | 11,749  | 15,791  | 34.4             |
| El Dorado County.....   | 16,207  | 29,390  | 81.3             |
| El Dorado.....          |         |         |                  |
| Kern County.....        | 228,309 | 291,984 | 27.9             |
| Bakersfield.....        | 34,784  | 56,848  | 63.4             |

Source: California Statistical Abstract, 1961, U.S. Department of Commerce, Bureau of the Census.

#### CHART II

*Projected population of major metropolitan areas<sup>1</sup> in the service area of the proposed Auburn-Folsom south unit, American River division, Central Valley project, California*

|                  | Estimated, 1956 | Projected 1960 | Percent increase | Projected, 2000 | Percent increase |
|------------------|-----------------|----------------|------------------|-----------------|------------------|
| Sacramento.....  | 380,000         | 460,000        | 21.1             | 1,416,000       | 207.8            |
| Stockton.....    | 155,000         | 172,000        | 11.0             | 510,000         | 196.5            |
| Fresno.....      | 185,000         | 204,000        | 10.3             | 587,000         | 187.7            |
| Bakersfield..... | 130,000         | 143,000        | 10.0             | 434,000         | 203.5            |

<sup>1</sup> Defined as urban area including one or more adjacent or nearby cities having a total area population of 250,000 or more.

Source: "Metropolitanization of the United States," by Jerome P. Pickard. Urban Land Institute, Research Monograph 2, 1200 18th St. NW., Washington, D.C., 1959.



Mr. DICKINSON. I also have a telegram from the California State Grange, signed by Mr. Quinn, the State master.

Senator Moss. That may also be included in the record.

(Telegram referred to follows:)

SACRAMENTO, CALIF., November 15, 1963.

HON. CLAIR ENGLE,  
U.S. Senator,  
Senate Office Building, Washington, D.C.:

California State Grange supports Senate bill 351 authorizing Federal construction and Secretary of the Interior operation and maintenance Auburn-Folsom south unit, American River division, Central Valley project, under Federal reclamation law.

J. B. QUINN,  
Master, California State Grange.

Senator Moss. Thank you, Mr. Dickinson, for presenting this fine statement for Senator Engle. I am sure the members of this committee, and I am sure all of his friends from California, hope that the Senator is improving very rapidly, and that we can have him back with us functioning in the Senate.

We know of his long record in the field of water resource development in the House, before he came to the Senate, and continuing in the Senate, and we certainly welcome this excellent statement from him.

Senator KUCHEL. I want to join in the views expressed, Mr. Chairman. I hope that our colleague from California will speedily recover, and be able to rejoin us yet in this 88th Congress.

Senator Moss. I am sure we all hope that, and I thank you.

Our next witness will be the chairman of the California Water Commission, Mr. Ralph M. Brody.

Mr. Brody, we are happy to have you come here to testify before us this morning.

#### STATEMENT OF RALPH M. BRODY, CHAIRMAN, CALIFORNIA WATER COMMISSION

Mr. BRODY. Thank you, Mr. Chairman.

Mr. Chairman and members of the subcommittee, my name is Ralph M. Brody. I am chairman of the California Water Commission.

Appearing at the witness table with me is Mr. William Carah, executive secretary of the water commission.

I want to express, on behalf of the water commission, as well as all the witnesses here present, deep appreciation to this subcommittee for in this busy time setting apart this time for us, to hear our comments on legislation now before you.

I want to assure the members of the subcommittee and the chairman that we will do our utmost, and we have urged the witnesses to submit their statements for the most part for the record, with a brief summary to be presented by each one of them.

The California Water Commission, Mr. Chairman, and members of the subcommittee, is an official unit of the State government. It has broad responsibilities to give advice on water development matters to the director of water resources, the Governor, and the State legislature. It also has been delegated responsibility to appear on behalf of the State before congressional committees on certain matters.



Our appearance here today is responsive to both duties, and to requests by the two U.S. Senators from California, Senators Kuchel and Engle, that the commission assist the local agencies in coordinating their testimony before your committee.

With the committee's permission, I would like to make a brief statement in support of S. 351, to introduce local witnesses, and finally, to submit for the record various statements and resolutions of agencies and groups unable to be represented here today.

Senator Moss. You may do that, sir.

Mr. Brody. Witnesses from the Department of Interior tomorrow will explain the project and its justification in technical detail. Therefore, I will confine myself to telling your committee why California considers the early authorization and construction of Auburn-Folsom south unit vital to our rapidly growing population and economy.

We fully support the construction of the project now before you for these reasons:

1. The project is urgently needed to provide supplemental agricultural, domestic, and industrial water to western Placer County, which is rapidly becoming a part of the metropolitan area of Sacramento, the capital city of California. This new supply also is needed to restore dropping ground water levels in Sacramento and San Joaquin Counties to stabilize an existing agricultural economy, and to provide industrial and municipal water in urban areas throughout the service area.

2. Being operated for carryover storage, Auburn Reservoir can take advantage of the tremendous flows of the North Fork of the American River during wet years, which ordinarily would be wasted to the ocean.

During the wet year of 1938, for example, the reservoir, completely empty, would have filled and spilled with the 1 year's runoff. Remaining good dam and reservoir sites are more and more scarce in California, and it is just good business to utilize them to their utmost potential so as to not preclude further development later.

3. Auburn Reservoir would work in conjunctive operation with Folsom Reservoir, downstream, allowing a more stabilized water surface at the latter reservoir, with its tremendous recreational use.

4. It would provide more flood control storage, so badly needed for the protection of the Sacramento metropolitan area, with its 600,000 people now, and projected population of 1 million within the next 15 or 20 years.

As recently as February 1 of this year, and also in December of 1955, Folsom Reservoir was tested to the utmost by two floods, both greater by far than any of record up to that point. In each case, another day of rain of high intensity would have brought disaster to the Sacramento area. The construction of Auburn, in conjunction with Folsom Reservoir, would bring complete flood protection to the Sacramento metropolitan area.

Also, and this is partially related to the recent dry cycle, but mainly to population and economic growth, the need for supplemental water for irrigation, industrial, and domestic uses is accelerating rapidly.

Underground water tables throughout the great Central Valley are falling, due to lack of adequate surface supplies. It is significant to note in this connection that deliveries of water from the presently constructed features of the Central Valley project have retarded, but



not stopped, the lowering of ground water levels in the project service area.

Now, I would like to discuss two extremely important points concerning the relationship of Auburn-Folsom south unit with projects being built or planned by the State of California and local agencies.

I am sure you have heard that the State of California has entered the water supply field with its \$1.75 billion State water project. This does not lessen the need for further Federal development such as Auburn-Folsom south.

At the present rate of growth, which shows no signs of lessening, it will require the combined efforts of the Federal Government, the State itself, and local agencies to supply water, power, and flood control to meet the requirements of our rapid growth.

The great undertaking by the State is primarily a municipal and industrial water project, serving the vast urban areas of southern California and the San Francisco Bay area, as well as some agricultural water in the central valleys and some mountain areas. It does not have the capacity to meet anywhere near the full agricultural requirements of the State.

Californians have been told many times by Congress that the Federal Government cannot supply all of the State's water demands, and that the local people must do something for themselves.

We have long recognized this principle, and we think that our record of self-help is better than any of the other States. We have a long record of cooperating with the Corps of Engineers on flood control projects, paying an average of more than 20 percent of the total costs. The State-Federal partnership on the San Luis Reservoir and related facilities is a milestone in State-Federal relationships.

We have underwritten the conservation costs of Black Butte and New Hogan Reservoirs, also a first in this type of cooperation.

Our State legislature has authorized payment of one-third of the costs of the recently authorized Sacramento River bank protection project.

Our scores of local agencies have expended over the years more than \$5 billion in local water development.

We submit that California has done a tremendous amount toward supplying its water needs. Still, the fact remains that our needs are outstripping our supplies, and that Federal participation is needed more than ever to close this gap, and to keep pace with the ever-increasing needs.

The second point is that there are districts, which, having been formed especially for this purpose, are ready, willing, and able to contract for water from the project. Most of them are represented here, and will testify as to this point, as well as to their need of supplemental water.

There are many other points I could make, but these will be discussed in more detail by the various districts and communities having an interest in the benefits of this project.

In summary, Auburn-Folsom south unit is needed now for flood control, for supplemental agricultural water, for municipal and industrial water, for power for pumping, for recreation, and to Supplement inflow to the Sacramento-San Joaquin River Delta.

The California Water Commission respectfully but strongly urges that your committee approve pending legislation authorizing the project.



That concludes my formal presentation, Mr. Chairman.

By your leave, I would like to introduce other witnesses at this point.

Senator Moss. You certainly may do that.

Let me thank you first for this very fine statement, and we appreciate your coming here in your official position to present this for the California Water Commission.

Senator JORDAN. Mr. Chairman?

Senator Moss. Senator Jordan.

Senator JORDAN. I would like to commend the witness for a very fine statement, but I would like to ask him a question for the record, if I may.

Senator Moss. You certainly may.

Senator JORDAN. Mr. Brody, you say that the construction of Auburn in conjunction with the Folsom Reservoir would bring complete flood protection to the Sacramento metropolitan area. Was that your statement?

Mr. BRODY. Yes, sir.

Senator JORDAN. In the statement given for our colleague, Senator Engle, he said:

Auburn Reservoir is expected to reduce the frequency of 115,000 cubic feet a second flow in the American River, between Folsom Dam and the Sacramento River, from about once in 10 years with present Folsom regulation to about once in 20 years.

In other words, you say it gives complete flood protection. He says it reduces the frequency to once in 20 years.

Which is right?

Mr. BRODY. Senator, the figure to which you alluded, I think, was for the planned releases. Now, perhaps I should have said "adequate," rather than "complete" flood protection.

Senator JORDAN. "Adequate," rather than "complete."

I just wanted to get the picture, as we go along, here.

Mr. BRODY. I appreciate the Senator's observation.

Senator Moss. Glad to have you clarify that, Senator.

Senator KUCHEL. You are an excellent public servant, Mr. Brody. Your statement is a good jumping off place for our other California witnesses, and I simply join in congratulating you for what you have said.

Mr. BRODY. Thank you.

Senator Moss. You may go ahead with your introduction.

Mr. BRODY. Our next witness to appear on behalf of the Governor of California is Mr. Irvine Sprague, deputy director of finance of the State of California.

Senator Moss. Mr. Sprague, we are happy to have you, sir. And we look forward to your presenting the statement of the Governor of California.

# **STATEMENT OF IRVINE SPRAGUE, DEPUTY DIRECTOR OF THE DEPARTMENT OF FINANCE OF THE STATE OF CALIFORNIA, ON BEHALF OF THE GOVERNOR OF THE STATE OF CALIFORNIA**

Mr. SPRAGUE. Mr. Chairman, I appreciate the opportunity to appear today.



My name is Irvine Sprague, deputy director of finance for the State of California.

Governor Brown asked me to express his personal appreciation and thanks for your scheduling these hearings today, and his regret that he cannot personally appear.

As you see from the large group that is gathered here on rather short notice, this is of critical importance to the State of California.

If I may, I would like to submit the Governor's statement in full for the record, and make one or two brief comments on it.

Senator Moss. That may be done, Mr. Sprague, and the Governor's statement in full will go in the record at this point.

(The statement referred to follows:)

STATEMENT OF HON. EDMUND G. BROWN, GOVERNOR OF THE STATE OF CALIFORNIA

I strongly support passage of S. 351 to authorize the Auburn-Folsom south unit of the Central Valley project. It is a good project, it meets a definite and growing need, and is fully compatible with the California water plan and the State water project, now under construction.

I will not dwell on California's amazing and continuing growth but I will leave with you just one statistic. Every Monday morning, every week of the year, we must have enough additional water on hand to service the equivalent of a new town of 12,000 persons. That's the measure of California's population growth and our water requirements which now are outstripping the combined efforts of local agencies, the State of California itself, and the Federal Government. I can assure you that these efforts have not been puny ones.

Local agencies and private enterprise have constructed, over the years, water and power developments having a value at today's prices of about \$4 billion. It has been a tremendous effort and just about met the State's needs until the sudden population explosion shortly after World War II. But it wasn't enough.

The Federal Government, through the Bureau of Reclamation and the Army Corps of Engineers, have made tremendous contributions to the solutions of California's water problems. Federal expenditures for this purpose in California have been more than \$1 billion.

In addition, the State of California has under construction its own water project at a cost of \$1.750 billion. It is well underway from Oroville Dam in the north, which will be the largest earth-fill dam in the world, to southern California. The joint Federal-State San Luis unit is the key to both the State project and the Federal San Luis development, and represents a pioneering effort in Federal-State cooperation in water matters.

I would like to place our need, and the joint efforts to meet them in another perspective, too.

During the past 10 years in California, Federal, State, local, and private agencies have completed 32 reservoirs having an aggregate water storage of 9,785,000 acre-feet. This represents construction of nearly 1 million acre-feet of water storage each year. It was not enough.

During the next 5 years projects already underway will add another 6.3 million acre-feet of storage. This will bring the 15-year average to more than a million acre-feet of new water storage each year.

I think you must agree that this is an impressive record of achievement. Impressive as it is, however, it is not enough. Today, our population stands at 17.5 million persons. By 1980, it will be 27.5 million. Studies of our ground-water withdrawals and projections for future needs would indicate that development is not keeping pace with usage.

I cite these facts for two reasons: first, they point up the large commitments already made by the State in water development, and, second, they demonstrate the need for Federal help in water development.

The State simply is not in a position to "go it alone" in developing all of its water resources. It must have Federal assistance. By the same token, we recognize our own responsibilities to take the lead in solving our own problems. That we are doing.

We recognize also that western water development will involve regional concepts and regional planning. We are prepared to discuss all aspects of regional development of water, power, and other resources.



But the urgency of the need for Auburn-Folsom South is of such an order that it should proceed immediately.

This project will help maintain our agricultural economy by partially offsetting a ground water overdraft problem. The overdraft on our great ground water reservoirs has reached the alarming rate of 3 million acre-feet each year. Withdrawing water at such a rate cannot continue without doing irreparable damage.

California has a direct interest in the power to be produced at Auburn Dam. The State water project is a power-deficient project in that it will require more power for pumping than can be produced by the project powerplants. We, as a public agency preference customer under reclamation law, have formally asked the Bureau of Reclamation to sell us Central Valley project power to help make up this deficit. The need for power for project pumping is mounting, not only with respect to the State project, but for other authorized and proposed Federal undertakings.

Auburn-Folsom south has much to offer in flood control for our capitol city of Sacramento and in providing recreational opportunities for our growing population. These subjects will be covered in detail by Ralph Brody, chairman of the California Water Commission and other local witnesses.

In summary, despite herculean efforts on the part of the State, local, and private agencies, we are falling behind in our efforts to meet our growing water needs. The Federal Government has a long and noteworthy record in assisting us to meet those needs. We urge that such assistance be continued in both the National and State interest, and that particularly, you give approval to S. 351 to authorize this very worthy project.

Thank you for the opportunity to present this statement.

MR. SPRAGUE. First, briefly, this is a good project. It meets a definite and growing need, and, very important to us, it is fully compatible with the California water plan, and the State water project, which is now under construction.

You will have a number of witnesses today and tomorrow who will go into the engineering details of the project, and I will not touch on that at all.

The Governor did ask me to emphasize to you the problems he is facing as Governor, and that the State is facing, because of the tremendous population growth. And I will just cite two figures that will focus attention on it.

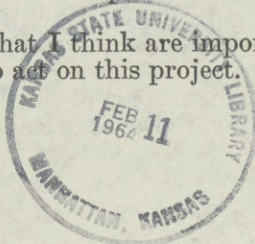
First, our population today is 17½ million persons, the largest in the Nation. By 1980, in less than 20 years, it will be 27½ million citizens. This means that every Monday morning, every week of the year, we must provide enough additional water to have on hand to service the equivalent of a new town of 12,000 persons. It is a continuing requirement.

Now, we are coming here today to ask some Federal assistance. I should emphasize that the State of California has done, and is doing, everything it possibly can to help itself. And I will cite two statistics.

Since the turn of the century, local groups and private agencies, private concerns, have spent what in today's dollars is the equivalent of \$4 billion to develop water and power. The people of California, within the past 2 years, voted \$1,700 million of their own money for the California State water project.

Now, the Federal contribution of California has been large, and has been greatly appreciated, but it is really dwarfed by what the people of California have done themselves. We are at the point now where we need some additional assistance.

I will cite two figures about the project that I think are important to the committee in considering how soon to act on this project. I do





not feel there is any question that it will be approved. The question is how quickly you can do it.

One figure that is of interest and importance is that more than 95 percent of all the acreage that will be covered by this project is in holdings of less than 160 acres. These are small farms, and the farming is in specialty crops, and not the type of production that is involved in any of the price support programs.

The second figure that I think is pertinent to the speed of your consideration is the benefit-to-cost ratio. The current figures, which will be given to you tomorrow by the Bureau of Reclamation witnesses, show a benefit-cost of 3.7 to 1.

As far as I know, this is many, many times better than any project the committee has before it now. In fact, it is much, much higher than any you have considered in quite a few years.

I think that one figure alone would be enough to convince you of the need for early action on this project.

That concludes my statement.

Senator Moss. Thank you very much, Mr. Sprague.

We appreciate that, and we appreciate having the full statement of the Governor.

At any time there are any questions of these witnesses, I hope you will speak up, Senator Kuchel or Senator Jordan.

Senator KUCHEL. Just one comment.

The people of our State bonded themselves in an amount of \$1.75 billion to construct the Feather River project as a part of the overall State water plan. Is that not true?

Mr. SPRAGUE. That is correct.

Senator KUCHEL. That information, I think, Mr. Chairman, is relevant comment to make to the members of the committee.

And work is going forward, is it not, Mr. Sprague, on the Feather River project?

Mr. SPRAGUE. Construction is now underway, and the project is proceeding on schedule.

Senator KUCHEL. And that, in the main, represents an attempt by the people of California to take surplus water from the north and deliver it beneficially in the south, for domestic and industrial as well as some agricultural consumption?

Mr. SPRAGUE. That is correct.

Senator Moss. Thank you, Mr. Sprague.

Will you call the next witness, Mr. Brody?

Mr. BRODY. Our next witness is Mr. Gianelli, a prominent consulting engineer from Sacramento, Calif., who will speak generally for the entire project service area.

Senator Moss. Happy to have you, Mr. Gianelli.

#### STATEMENT OF WILLIAM R. GIANELLI, CONSULTING CIVIL ENGINEER, SACRAMENTO, CALIF.

Mr. GIANELLI. Mr. Chairman and members of the committee, my name is William Gianelli, for the record. I am a consulting engineer from Sacramento. I am appearing here today on behalf of the chairman of the Auburn Dam Committee, Mr. B. W. Cassidy. I am also appearing as part of the delegation which will represent the San Joaquin County Board of Supervisors.



I have a detailed statement, Mr. Chairman, and with your permission, I would like to go through it and just emphasize certain points, and submit the entire statement for the record, if I might.

Senator Moss. That will be done, then, Mr. Gianelli. The statement in full will go into the record here and then we will be glad to have you emphasize or highlight parts of it.

Mr. GIANELLI. Thank you very much.

(The statement is as follows:)

PREPARED STATEMENT OF WILLIAM R. GIANELLI, REPRESENTING THE AUBURN DAM COMMITTEE

Mr. Chairman and members of the committee, my name is William R. Gianelli, I am a consulting civil engineer from Sacramento, Calif., and am appearing here today on behalf of the chairman of the Auburn Dam Committee, Mr. B. W. Cassidy. I am also appearing as part of the delegation representing the San Joaquin County Board of Supervisors. This presentation is made in support of Senate bill 351 relating to the Auburn-Folsom south unit of the Central Valley project in California.

The Auburn Dam Committee was organized in 1956 by a number of persons who are interested in the construction of Auburn Dam at the earliest possible date to provide additional, much needed, water development and flood control on the American River in the Central Valley of California. At the present time the committee has 29 members who represent cities, counties, agriculture, and business, in a seven-county area which would be greatly benefited by the construction of Auburn Dam. Among the cities represented are Auburn, Roseville, Foresthill, Colfax, Lincoln, Sacramento, Stockton, and Oakland. Counties with representation on the committee are Placer, El Dorado, Sacramento, San Joaquin, Alameda, Santa Clara, and San Benito. Many of these entities will be represented here today and are presenting detailed statements in their own behalf, covering those portions of the Auburn-Folsom south canal project which are of particular interest to them.

The Auburn Dam Committee was organized as a nonprofit organization in the year following the 1955 disastrous floods in California when it became apparent that additional flood control was vitally needed within the American River Basin of California's Central Valley. It soon thereafter also became apparent that, in addition to providing much needed flood control, Auburn Dam could function as a multipurpose dam for the benefit of water conservation, recreation, power development, and other incidental purposes. In recognition of the fact that Auburn Reservoir would supply the additional water needed for the Folsom South Canal service area, the Auburn Dam Committee has joined with the potential water users from the Folsom South Canal and is pleased to appear on behalf of the entire Auburn-Folsom south unit as an additional part of the Central Valley project in California. It also supports, as part of the Auburn Dam-Folsom South Canal project, the Folsom-Malby and Foresthill Divide features which will provide major benefits for agricultural, domestic, industrial, and municipal purposes in the rapidly growing foothill area in Placer and El Dorado Counties.

We previously appeared before your committee in February of 1962 in support of the Auburn-Folsom south project when it was anticipated that Auburn Reservoir would be constructed to a 1 million acre-foot capacity. Additional studies and changing conditions since that time have resulted in enlarging the size of Auburn Reservoir to 2½ million acre-foot capacity. We are in favor of maximizing the size of this reservoir with its attendant increased benefits and therefore urge authorization of the project as now before your committee.

There are a number of representatives on our committee who are vitally concerned with the additional flood control which will be provided by the construction of Auburn Dam and Reservoir. The reservoir will provide an additional 250,000 acre-feet of storage which the U.S. Army Corps of Engineers indicates is necessary to control floods and prevent damage to the highly developed areas along the lower reaches of the American River in the densely populated Sacramento metropolitan area. As this area continues to expand flood control becomes increasingly more important. It is expected that this flood control storage space in Auburn Reservoir will also reduce flood control



damages within the Sacramento-San Joaquin Delta area. The 250,000 acre-feet of flood control storage in Auburn Reservoir, when combined with the flood control space in Folsom Reservoir, would provide a total of 650,000 acre-feet of flood control space on the American River and would control the historical floods on the American River to 115,000 cubic feet per second, the safe channel capacity of the downstream levees.

The last 12 years has seen the American River flows exceed historical previous peak flows three times. In November of 1950 the American River peaked at Folsom at slightly under 200,000 cubic feet per second. During this period an estimated \$3,500,000 in direct damages resulted from the uncontrolled flow. In the Christmas floods of 1955, the peak inflow into the newly constructed Folsom Reservoir reached 218,000 cubic feet per second. Luckily damage was avoided as a result of the 1955 floods on the American River, primarily because Folsom Reservoir had been completed just a few months prior to that time and storage in excess of the normal flood control reservation was available. This year the American River flow at Folsom Reservoir peaked at approximately 240,000 cubic feet per second on February 1, 1963. If the 1963 February peak flows had persisted for several days, severe damage would have resulted which otherwise might have been prevented had Auburn Reservoir been in existence.

Auburn Reservoir will provide an additional 365,000 acre-feet of water for irrigation purposes in the Folsom south canal area. This amount, when combined with water from Folsom Reservoir, will make available 440,000 acre-feet for irrigation in Sacramento County and 273,000 acre-feet for irrigation in San Joaquin County. In addition to the water to be made available for agricultural purposes, the Auburn-Folsom Reservoir combination will make available 139,000 acre-feet of water for municipal and industrial service, of which 65,000 acre-feet would be available for the city of Stockton and the remainder would be available for use in other local delta or bay area communities. In addition to the Folsom south canal flows, 25,000 acre-feet would be made available through Folsom Reservoir for the Malby service area.

As a basis for illustrating the need for additional water supplies in the Folsom South Canal service area, I have brought with me a large chart which shows the average drop in water levels in Sacramento and San Joaquin Counties during the last 10-year period, from the spring of 1953 to the spring of 1963. It should be noted that the average drop in water level in Sacramento County during this 10-year period has been 21 feet and the corresponding drop in water level in San Joaquin County has been approximately 24 feet. In addition, the large contour map showing the change in ground water levels indicates that in some areas the ground water level is dropping much faster than the averages indicate. For example, in the areas beneath the city of Stockton it may be noted that a cone of depression exists which has placed in jeopardy the entire ground water basin upon which the city is dependent.

By integration of the Auburn Dam and Reservoir with the Federal Central Valley project, these water supplies can assist, at least on an interim basis, in meeting Federal and State water requirements out of the Sacramento-San Joaquin Delta. At the present time the Federal Central Valley project diverts large quantities of water out of the delta for its Delta-Mendota Canal requirements. Additional large amounts will be required to be diverted from the delta to meet the demands of the Federal San Luis project currently under construction and to meet the State's demands for its San Joaquin Valley-southern California aqueduct system. The State has also contracted with the United States for an interim supply out of the delta to meet the requirements of its south bay aqueduct which will be serving the east and south San Francisco Bay area. In addition, any release of this water down the American River will provide benefits for navigation and salinity control in the Sacramento-San Joaquin Delta.

Auburn Reservoir is of vital importance to the Metropolitan Sacramento area as a recreation facility. One of the advantages of the enlarged capacity of Auburn Reservoir is that it would provide an average water surface area of about 8,700 acres during the recreation season of April through September. A further benefit would result in that Folsom Reservoir could be held at higher operating levels which would provide an additional surface area at Folsom during the recreation season.

The Auburn Dam Committee strongly supports the recreation provisions which have been included in the enlarged Auburn Reservoir currently under



consideration because of the growing importance of recreation in our northern California area. The project before you includes a nonreimbursable cost allocation to recreation and fish and wildlife enhancement of approximately \$30 million, which is apparently based upon recent policies adopted by the Department of Interior. Our committee believes such an allocation to be highly justified and we urge the acceptance of the principle of allocation of a portion of the recreation and fish and wildlife costs as nonreimbursable. However, if the Congress determines that the suggested amount of nonreimbursable allocation for these purposes should be changed we would not question such a change. We do desire to point out, however, that with the exceedingly favorable benefit-cost ratio of 3.71 to 1, the Auburn-Folsom south unit is highly feasible either with or without the \$30 million nonreimbursable allocated for recreation and fish and wildlife enhancement. We do not wish this vitally needed project to be delayed as a result of any question as to the amount of nonreimbursability of costs allocated for these purposes. Additional presentations will be made to you with respect to the recreation benefits which would be derived as a result of the construction of Auburn Reservoir.

The Auburn unit will be operated with full coordination of both water releases and power output with other units of the Central Valley project. Reregulation of water in Auburn Reservoir and Folsom Reservoir will permit considerable flexibility in the operation of Folsom powerplant and justify the installation of 240,000 kilowatts of initial capacity in the Auburn powerhouse. The powerplant should be provided with capacity for future enlargement by installing capacity of the penstocks, providing turbine foundations, and other modifications to allow for an increase to 400,000 kilowatts of capacity when future demands of the northern California power market require extra generating capacity. As hydroelectric power in California is used more and more for peaking purposes, providing for an enlargement of the powerplant will more than repay the small incremental cost which might be required at this time to provide for future expansion. To illustrate this point, it is interesting to note that prior to 1940 in northern California about 65 percent of the total installed capacity was in hydroelectric plants which were being used to supply base powerloads. By the mid-1950's the ratio had changed to predominantly steam electric powerplants, with hydroelectric plants being used to meet peaking demands. With the limited hydroelectric powerplant potential available, it is expected that hydroelectric power will be in great demand to meet the peakload requirements in the future. Further, it is expected that as nuclear power becomes available it will place ever-increasing demands on the limited hydroelectric power development.

In summary, the Auburn Dam Committee and the agencies which it represents will be benefited by all of the multipurpose uses of the Auburn Dam-Folsom South Canal project. We urge your committee to recommend the early authorization of this vitally needed project as set forth in the reports before you.

Mr. GIANELLI. The Auburn Dam Committee was organized in 1956 by a number of persons who were interested in the construction of Auburn Dam at the earliest possible date to provide additional, much needed, water development and flood control on the American River in the Central Valley of California.

At the present time the committee has 29 members who represent cities, counties, agriculture, and business, in a seven-county area which would be greatly benefited by the construction of Auburn Dam. Among the cities represented are Auburn, Roseville, Foresthill, Colfax, Lincoln, Sacramento, Stockton, and Oakland.

Counties with representation on the committee are Placer, El Dorado, Sacramento, San Joaquin, Alameda, Santa Clara, and San Benito.

I would like to emphasize, Mr. Chairman, that there are a number of people on the committee who are very much concerned with flood protection on the American River.

The last 12 or 13 years have seen the American River exceed previous peak flows three times. In November of 1950, the American River peak at Folsom was slightly under 200,000 cubic feet per second.



During this period, an estimated \$3,500,000 in direct damages resulted from these uncontrolled flows.

In the Christmas floods of 1955, the peak inflow into the newly constructed Folsom Reservoir reached 218,000 cubic feet per second. Luckily, damage was avoided, as a result of the 1955 floods, primarily because Folsom Reservoir had just been completed a few months prior to that time, and storage in excess of the normal flood control reservation was available at Folsom.

This year the American River at Folsom Reservoir peaked at approximately 240,000 cubic feet per second on February 1, 1963. If the 1963 February peak flows had persisted for several days, severe damage would have resulted, which otherwise might have been prevented had Auburn Reservoir been in existence.

The next point which is of vital concern to this area is the matter of providing additional water supply for irrigation purposes in the Folsom south canal area.

Auburn Reservoir itself will provide an additional 365,000 acre-feet of water for irrigation purposes. This amount, when combined with the water which is made available from Folsom Reservoir, will make available at the Folsom south service area 440,000 acre-feet for irrigation in Sacramento County, and 273,000 acre-feet for irrigation in San Joaquin County.

In addition to the water which is made available for agricultural purposes, the Auburn Reservoir combination will make available 139,000 acre-feet of water for municipal and industrial service, of which 65,000 would be available for the city of Stockton, and the remainder would be available for use in other delta or local San Francisco Bay communities.

In addition to the Folsom south canal flows, 25,000 acre-feet would be made available through Folsom Reservoir for service in the Malby area, which is in the eastern portion of Sacramento County and El Dorado County.

One point that was mentioned by Mr. Sprague I would like to stress. That is the landownership pattern of the Folsom south canal service area.

Eighty percent of the landownership pattern is in ownerships of less than 40 acres. Ninety-five percent is in ownerships of less than 160 acres. And 98 percent of the landownership pattern is in ownerships of less than 320 acres.

I think, Mr. Chairman, that gives you sort of an idea as to the ownership pattern of the entire Folsom south area.

As a basis for illustrating the need for additional water supplies in the Folsom south canal service area, I have brought with me a couple of maps which I think might give the committee a visual look at the problem generally.

Senator Moss. Fine, if you could swing them around so that we can see them.

Mr. GIANELLI. The first chart, Mr. Chairman, is entitled "Auburn-Folsom south unit service area, average depth to water." And that is measured from spring to spring.

What is shown on this map is the change in depth of water for the 10-year period, 1953-63. The lower line indicates the average depth to water in Sacramento County, beginning in the period 1944 through 1963.



Senator MOSS. Is this subterranean water?

Mr. GIANELLI. Yes; this is the ground water basin, Mr. Chairman, that essentially supplies the area at the present time. It is supplied primarily by pumping from ground water.

In the last 10 years the Sacramento County area—the surface of the ground water basin in the last 10 years has declined 21 feet, and this has been a general indication of what has happened.

Each 5 acre-foot change in ground water storage, change in elevation of ground water, represents a 70,000 acre-foot change in storage in Sacramento County.

In San Joaquin County in the last 10 years, 1953–63, the surface of the ground water has dropped 24 feet. Now, in that 24 feet, each 5 feet represents a change in ground water storage of 100,000 acre-feet.

So in San Joaquin County, in the last 10 years, we have lost approximately 500,000 acre-feet of ground water storage as a result of the declining ground water level.

I have another diagram here that I think might be of interest. This chart shows the entire Folsom south canal service area.

Senator MOSS. I think you will have to pull it still further. I can see it now, but I am sure Senator Jordan cannot.

Senator JORDAN. I can see it now.

Senator MOSS. Thank you.

Mr. GIANELLI. This map is entitled "Ground water level change, spring, 1953, to spring, 1963." It shows the same thing that was shown on the previous chart, only it shows in detail what has happened.

The different colors represent the different amounts of ground water surface elevation decline. For example, there is an area to the east of Stockton where in the last 10 years it has dropped as much as 40 feet. This compares with the average of 24 feet that I have shown on the other diagram.

In addition, the purple color indicates declines between 30 and 40 feet in these various areas. The brown indicates declines of 20 to 30 feet in ground water surface elevation. The greens indicate declines of 10 to 20 feet. And the yellow indicates declines from zero to ten feet.

I think this gives a graphic picture of what has happened to the ground water in the area now, from which it presently derives its supply.

Senator BURDICK. Are those declines that have taken place since 1950?

Mr. GIANELLI. This represents the change between 1953 and 1963, sir. And we have measured them in the spring, so that we have a better system of comparing. And this represents a 10-year period.

Senator JORDAN. Do you have a figure for that overall ground water depletion for all of the counties, for the whole area, for that 10-year period?

Mr. GIANELLI. I have some figures that indicate annual overdraft, which have been computed. Perhaps we can get at them through that.

With respect to the amount of water that is presently being used in the Folsom south service area, 665,000 acre-feet average was used during the period 1951–55. Of this amount, it is anticipated, or the studies indicate, that 97,000 acre-feet represents the average annual overdraft.



In other words, we are taking out by 97,000 acre-feet more than is being put in.

Senator JORDAN. You have that annual overdraft?

Mr. GIANELLI. The average annual is 97,000.

Senator JORDAN. Ten years would be—

Mr. GIANELLI. Almost a million acre-feet.

Senator JORDAN. Almost a million acre-feet?

Mr. GIANELLI. That is correct.

Auburn Reservoir is of vital importance to the Metropolitan Sacramento area as a recreational facility. One of the advantages of the enlarged capacity of Auburn Reservoir is that it would provide an average water surface area of about 8,700 acres during the recreation season of April through September.

A further benefit would result, in that Folsom Reservoir could be held at a higher operating level, which would provide an additional surface area at Folsom during the irrigation season.

The Auburn Dam Committee strongly supports the recreation provisions which have been included in the enlarged Auburn Reservoir currently under consideration.

The project before you includes a nonreimbursable cost allocation to recreation of approximately \$30 million, which, we understand, is consistent with certain policies that have recently been adopted and are pending before the Congress in the House of Representatives.

The Auburn unit will be operated with full coordination of both water releases and power output, with other units of the Central Valley project.

Reregulation of water in Auburn Reservoir and Folsom Reservoir will permit considerable flexibility in the operation of Folsom powerplant and justify the installation of 240,000 kilowatts of initial capacity in the Auburn powerplants.

The powerplant should be provided with capacity for future enlargement by installing capacity of the penstocks, providing turbine foundations, and other modifications to allow for an increase to 400,000 kilowatts of capacity when future demands of the northern California power market require extra generating capacity.

As hydroelectric power in California is used more and more for peaking purposes, providing for an enlargement of the powerplant would more than repay the small incremental cost which might be required at this time to provide for future expansion.

To illustrate this point, it is interesting to note that prior to 1940, in northern California, about 65 percent of the total installed capacity was in hydroelectric plants, which will be used to supply base powerloads.

By the mid-1950's, the ratio had changed to predominantly steam electric powerplants, with hydroelectric plants being used to meet peaking demands.

With the limited hydroelectric potential available, it is expected that hydroelectric power will be available to meet the peak demands of the future.

Furthermore, it is expected that as nuclear power becomes available, it will place ever-increasing demands on the limited hydroelectric power development.



In summary, the Auburn Dam Committee and the agencies which it represents will be benefited by all of the multipurpose uses of the Auburn Dam-Folsom south canal project. We urge your committee to recommend the early authorization of this vitally needed project as set forth in the reports before you.

Thank you very much, Mr. Chairman.

Senator Moss. Thank you, Mr. Gianelli. We appreciate that testimony.

Do the other Senators have any comments or questions?

Senator Burdick, any questions of this witness?

Senator BURDICK. Yes.

Senator Moss. Senator Burdick has a question, Mr. Gianelli.

Senator BURDICK. Perhaps one of the Department witnesses could answer this question.

This project has a 50-year payout?

Mr. GIANELLI. It is my understanding that that is correct.

Senator BURDICK. And this project envisions the installation of a powerplant?

Mr. GIANELLI. Yes, it does.

Senator BURDICK. What is the capacity of that plant?

Mr. GIANELLI. The present plant capacity is 240,000 kilowatts, and I think the Department of the Interior has recommended that certain things be put in so that it can be enlarged to 400,000 kilowatts at a later date.

Senator BURDICK. The penstocks would be later?

Mr. GIANELLI. Yes, the penstocks and turbine foundations would be sized at this time, and I think the actual cost of providing for the enlargement at this time would vary between \$3½ and perhaps \$14 million, something in that neighborhood.

Senator BURDICK. Do you have indications of farmer participation in this irrigation project?

Mr. GIANELLI. Oh, yes, sir. The project at the present time, as I think I indicated in my statement—most of the water supply is obtained from ground water pumping. And many of the people will probably continue to pump from the ground water.

In addition, there are certain municipal requirements that will, I am sure, insofar as ground water is available, always utilize the ground water basin.

So in addition to that, the irrigation districts will be required to probably construct distribution facilities, which are going to require considerable expenditure on their part in order to utilize this water.

Senator BURDICK. Does this project bring any new lands into production?

Mr. GIANELLI. Primarily it is to rescue an existing economy, Senator. There will be a small amount of additional land brought in, but primarily all of these lands in the Folsom south canal area at this time are being irrigated. And what we are trying to do is to rescue the ground water basin so that we can continue the present economy of the area.

Senator BURDICK. Do you raise any price support crops in this area?



Mr. GIANELLI. Primarily the area raises orchards and vineyards and irrigated pasture for dairy production, truck crops and row crops, and things of this nature.

I do not believe that there is any major problem with respect to the surpluses.

Senator BURDICK. I notice in last year's bill there was the customary 10-year limitation on using land for crops that are price supported. Is there any objection to that in this bill?

Mr. GIANELLI. I do not believe there would be any objection, Senator.

Senator Moss. Thank you, Mr. Gianelli. We appreciate your testimony.

Senator Moss. Who would you like to have next, Mr. Brody?

Mr. BRODY. I might observe, Mr. Chairman, in response to Senator Burdick's final question, that it would present no particular problem to this area, certainly, in terms of this language which is mentioned, in view of the fact that there is very little if any of the surplus crops that are involved in this area, and very little, if any, new land.

Senator BURDICK. The reason I ask that: In most irrigation projects now we are putting that amendment into the bill to insure to people that at least for the 10-year period you would not add to the problem you would otherwise have. And I am sure from what the testimony showed that you do not raise large areas of corn or wheat or anything of that sort.

Mr. BRODY. In this particular area.

The next witness I would like to present is Mr. William S. Briner, chairman of the board of supervisors of the county of Placer.

Senator Moss. Mr. Briner, glad to have you.

**STATEMENT OF WILLIAM S. BRINER, MEMBER, BOARD OF DIRECTORS, PLACER COUNTY WATER AGENCY, STATE OF CALIFORNIA, AND CHAIRMAN, BOARD OF SUPERVISORS, COUNTY OF PLACER, STATE OF CALIFORNIA**

Mr. BRINER. Mr. Chairman and members of the committee, my name is William Briner. I am chairman of the Board of Supervisors of the County of Placer.

I would like at this time to present Resolution 63-329,<sup>1</sup> which urges the support of the Auburn Dam-Folsom Canal project and urges the approval of S. 351.

I would like to submit that for the record.

Senator Moss. That may be submitted and made part of the record.

Mr. BRINER. At this time, also, as a member of the Placer County Water Agency, I will state that the agency is in support of this project, and the approval of this bill.

I have been authorized to appear before you today to present support.

I would like at this time to submit a statement that I have prepared.

Senator Moss. That may also be made a part of the record.

Mr. BRINER. Thank you. That is all I have, Mr. Chairman.

<sup>1</sup> The resolutions submitted by this and other witnesses appear as an appendix to this hearing.



Senator Moss. Thank you very much, Mr. Briner. We appreciate your coming to present these documents for the record, and we will have them before the committee in full.

(The prepared statement is as follows:)

PREPARED STATEMENT OF WILLIAM S. BRINER, MEMBER OF THE BOARD OF DIRECTORS OF THE PLACER COUNTY WATER AGENCY OF THE STATE OF CALIFORNIA

Mr. Chairman and members of the committee, my name is William S. Briner. I am a member of the board of directors of the Placer County Water Agency and the chairman of the Board of Supervisors of the County of Placer in the State of California. The boundaries of the Placer County Water Agency are coterminous with those of the county of Placer and the county board of supervisors serves as the board of directors of the agency. Auburn, Calif., the proposed site of the Auburn Dam is the county seat of Placer County.

The board of supervisors of the county of Placer adopted a resolution on November 12, 1963, supporting the Auburn Dam-Folsom South Canal project and urging the approval of S. 351. The Placer County Water Agency also supports this project and urges the approval of this bill. The agency board authorized me to appear here before you today to indicate its support.

The Placer County Water Agency has entered into an agreement with the Bureau of Reclamation providing for diversions of water from the American River into western Placer County. Under this agreement, and pursuant to our water right permits from the State of California, we will divert up to 120,000 acre-feet of water developed by our Middle Fork American River project. Also under the terms of this agreement, our agency will purchase up to 117,000 acre-feet additional water annually from the Central Valley project. Construction of the Auburn Dam and Reservoir will assure the availability of this additional water to us from the Central Valley project. Without it, growth of our county to its full potential would be jeopardized.

Construction of the Auburn Dam-Folsom South Canal project will not only provide us this additional 117,000 acre-feet of water, but will also eliminate the necessity for our agency to pump our own 120,000 acre-feet of water from the American River. The Auburn Dam and Reservoir will allow us to divert this water by gravity into western Placer County. In addition, our county and the neighboring areas in northern California will receive substantial recreational benefits from this project.

While the Placer County Water Agency supports the Auburn project and urges approval of S. 351, we are concerned about the proposed price of municipal and industrial water from the project for the Foresthill Divide area of Placer County. The report of the Commissioner of Reclamation entitled "A Supplemental Evaluation of the Auburn-Folsom South Unit of the Central Valley Project, California," dated April 5, 1963, quoted a price of \$85 per acre-foot for such water service to that area. In a letter dated June 18, 1963, the chairman of the agency, Frank J. Paoli, urged the financial integration of the municipal and industrial water supply features of the smaller participating units such as Sugar Pine Reservoir, which will serve the Foresthill Divide, into the financial structure of the total Central Valley project, with the rates for municipal and industrial water service established accordingly. He also requested the Secretary of the Interior to consider whether such a high price was justified and whether a more equitable municipal and industrial water pricing policy for mountain communities such as the Foresthill Divide area could not be developed. On July 18, 1963, the Assistant Secretary of the Interior, Mr. Kenneth Holm, replied to Mr. Paoli informing him that the water rate problem in the Foresthill Divide area was being studied within the Bureau of Reclamation. Apparently this study has not yet been completed.

The Placer County Water Agency is hopeful that the results of this study will provide a price for municipal and industrial water for the Foresthill Divide area which will be more consistent with the economy of that area than the originally proposed price.

Senator Moss. Mr. Brody?

Mr. BRODY. Our next witness, Mr. Chairman, is Mr. Clarence A. Reeves, mayor of the city of Auburn, in Placer County.

Senator Moss. Mayor Reeves, we are glad to have you, sir.



**STATEMENT OF CLARENCE A. REEVES, MAYOR, CITY OF AUBURN,  
CALIF.**

Mr. REEVES. Mr. Chairman and members of the committee, my name is Clarence Reeves, mayor of the city of Auburn, Calif.

I am appearing here today on behalf of the city council.

The city of Auburn, located in northern California, immediately adjacent to the site of the proposed Auburn Dam and Reservoir, is interested in this project because of the many National, State, and local benefits. It strongly supports S. 351, to authorize the Auburn-Folsom South unit of the Central Valley project.

In addition to the statement of the city of Auburn, I have resolutions supporting S. 351 from the Auburn Area Chamber of Commerce, the Auburn Boat Club, and the Auburn Area Recreation and Park District. With your permission, I would like to submit them for the record.

Senator Moss. They will be printed in the record.

Mr. REEVES. Thank you.

Senator Moss. Thank you, mayor, and your statement will appear in full in the record at this point. We appreciate it very much.

Mr. REEVES. Thank you very much.

(The prepared statement is as follows:)

**PREPARED STATEMENT OF CLARENCE A. REEVES, MAYOR, CITY OF AUBURN, CALIF.**

I am appearing here today on behalf of the city council of the city of Auburn.

The city of Auburn, located in northern California immediately adjacent to the site of the proposed Auburn Dam and Reservoir, strongly supports S. 351 to authorize the Auburn-Folsom south unit of the Central Valley project, and urges approval of the bill.

As the county seat of a growing county which is oriented toward urban and industrial development in the southwest, toward agriculture in the northwestern portion, and toward recreation in the mountainous eastern portion, the city has a broad interest in all of the benefits which will be derived from construction of the project.

Many of these facets of the project will be covered by other witnesses, so to avoid duplication and in the interest of saving time for the committee, we have concentrated our statement here today on the tremendous recreational benefits which will accrue not only to our immediate area, but to the surrounding counties.

Fortunately, our area already has had considerable experience in this field, as a portion of nearby Folsom Reservoir of the Central Valley project is located in Placer County, and indeed, extends to the base of the proposed Auburn Dam.

Folsom Reservoir facilities attracted 2,202,000 visitor-days of recreation use in 1962, according to figures from the California Division of Beaches and Parks, which operate the largest of the public facilities on the lake.

Instead of providing competition for potential users of the proposed Auburn Reservoir, use of both reservoirs would be required to meet the demands for water-oriented recreation in northern California.

There are at present 4 million persons residing within 150 miles of the Auburn-Folsom Reservoir complex.

There are in Placer, El Dorado, and Sacramento Counties approximately 21,000 pleasure boats registered, and the number is increasing annually.

Folsom Reservoir, under existing conditions, cannot support much more visitor use because of the large fluctuation of the water level, beginning quite early in the recreation season.

Due to the gently sloping shoreline in many places, this results in unsightly mudflats during a large portion of the recreation season, and poses difficulty in launching boats and in otherwise obtaining easy access to the water.

However, the National Park Service, investigating this aspect of the project for the Bureau of Reclamation, points out that with Auburn Reservoir in oper-



ation, the present average drawdown of Folsom Reservoir of 86 feet (April through September) will be reduced to an average of 27 feet.

In view of this proposed method of operation of the two reservoirs, the Park Service states that visitor-day use at Folsom would increase by 50 percent, or to 3,300,000 annually, almost immediately on construction of the additional facilities needed.

The Park Service further states, that under the favorable operating conditions predicated on construction of Auburn Reservoir, the visitor-day use at Folsom will reach its maximum potential of about 10 million annually by 1985.

The primary uses at Folsom are pleasure boating, water skiing, fishing, swimming, and picnicking. Camping presently is not allowed in the Folsom Lake area.

The reservoir to be formed by Auburn Dam would be greatly different in character and appeal for the recreational user.

Rather than a large, broad body of water as is Folsom Lake, it would consist of long narrow arms of water extending far up steep, forest covered scenic canyons. The Park Service estimates a future visitor-day use of Auburn Reservoir of 2 million annually, provided proper access is made available.

Camping would be a large attraction, as well as boat trips far up the scenic canyon arms of the reservoir into areas hitherto unaccessible.

We agree with these statements, and feel, as does the Park Service, that they are conservative in view of increasing availability of leisure time, the growth of the surrounding metropolitan areas, and the unprecedented popularity of boating.

We also feel that the benefits ascribed to recreational aspects of Auburn and Folsom Reservoirs are conservative in view of more liberal cost allocation methods used by some State and local agencies in determination of similar benefits.

From the standpoint of the National and State interest, we fully subscribe to construction of the larger 2,500,000-acre-foot Auburn Reservoir.

We are convinced that the day is past when the Nation or the State can afford not to develop the full potential of the few remaining good dam and reservoir sites. The growing need for water supplies, for hydroelectric power, for flood control and for recreation opportunities clearly demonstrates this point.

In summary, authorization and construction of the Auburn-Folsom south unit would produce tremendous recreational benefits, both to our city and to the surrounding metropolitan areas.

Recreation is a beneficial use of water along with irrigation, domestic power and flood control.

The city of Auburn strongly supports the Auburn-Folsom south unit and urges that your committee approve S. 351 to authorize the unit.

We thank you for the opportunity of appearing before you.

Mr. BRODY. Mr. Chairman, our next witness is Mr. J. E. Little, of Foresthill, a member of the Auburn Dam Committee.

Senator MOSS. Mr. Little.

#### STATEMENT OF J. E. LITTLE, MEMBER, AUBURN DAM COMMITTEE

Mr. LITTLE. My name is J. E. Little. I am a consulting civil engineer from Foresthill, Calif., and a member of the Auburn Dam Committee.

In particular, I am here to represent the Foresthill Divide area, and will confine my remarks to that portion of the project.

My remarks will be very few, because the statement which I have submitted may be looked into at your leisure.

Senator MOSS. That will be part of the record, and you may go ahead and highlight any part you want.

(The statement referred to follows:)

#### PREPARED STATEMENT OF J. E. LITTLE, MEMBER, AUBURN DAM COMMITTEE

Mr. Chairman and members of the committee, my name is J. E. Little, consulting civil engineer, from Foresthill, Calif., and county engineer of Placer



County, Calif. I am a member of the Auburn Dam Committee, and represent the Foresthill Divide; therefore, the remarks in my testimony will be confined to the Foresthill Divide project of the Auburn-Folsom south unit of the Central Valley project.

#### FORESTHILL DIVIDE AREA

The Foresthill Divide area has been well described in the report of the Bureau of Reclamation on the Auburn-Folsom South unit, Central Valley project, California. This statement concerns that part of the divide lying westerly and below the easterly limits of the proposed Foresthill Divide unit of the project. This area includes the town of Foresthill with a population presently estimated at 1,000, and a total population on the divide estimated at 1,400.

Climate, and the soil which is suitable for irrigated crops, are ideal for the propagation of orchards and many other crops, none of which are under Government support or in excess supply. These include walnuts, chestnuts, filberts, pistachio nuts, apples, grapes, blackberries, blueberries, raspberries, strawberries, and irrigated pasture. Reclamation Bureau reports state that within the area of the proposed project lie 1,340 acres of land suitable for irrigated crops. Irrigable lands westerly and below the proposed project have been variously estimated to be from 5,000 to 15,000 acres. It would seem that the latter figure is more realistic, and while this latter area is not presently under consideration in the project, it is well to remember that the potential for future expansion exists.

#### AREA RESOURCES

Gold mining, which, at one time, was the principal industry of the area, is no longer of major importance. The economy of the district today is principally supported by the lumber industry. Tributary to Foresthill is one of the finest remaining stands of pine timber in the West. The estimated sustained yield production from this area is 45 million feet of lumber per year.

Cattle raising is practiced on a limited scale and while no irrigated crops are commercially produced, the agricultural land within the area is an important resource.

If water were made available for irrigation, the agricultural land would become a far more important resource and its development would serve to round out the economy of the area.

The recreational potential of the area is an important resource. This has been well covered by the report of the National Park Service to the Bureau of Reclamation, so I will make no further comment thereon.

#### PRESENT DEVELOPMENT

There are two lumber operations close to the town of Foresthill which are the backbone of the present economy of the divide. These mills employ approximately 350 men, and have an annual payroll estimated at \$2 million.

Commercial agriculture within the proposed project area has begun on a non-irrigated basis. In 1956, Prof. E. F. Serr, nationally known pomologist and expert on walnut culture, of the Agricultural Extension Service at the University of California at Davis, was commissioned by a Mr. Murphy to make a detailed study of the soil and climate of the Foresthill area. This study indicated ideal conditions for the culture of walnuts. Following this study, Mr. Murphy, Prof. Serr, Dr. Sam Talley, retired research chemist of Shell Oil Co.; Prof. Ralph Parks, of the University of California at Davis; and others acquired some large tracts of land within the project area and started clearing land and planting of walnuts. Water for starting the young trees was supplied by tank truck. About 100 acres have been planted to date. All are doing well, and some are now coming into bearing. Some interplanting of apples was done. There are definite plans to progressively increase the orchard plantings by 500 acres. These men figure that unirrigated walnut orchards will, when mature, produce a gross annual yield of \$300 per acre, and that American chestnuts, of which they propose to plant an acreage, would produce a gross annual yield of \$500 to \$800 per acre.

There is one 20-acre apple orchard now in production within the project area.

#### WATER DEVELOPMENT

In the old days several ditches brought water from the high country to the Foresthill area for gold mining. No storage was provided, and the use of water



was limited to the months of the year when runoff waters were available. These ditches are completely inoperative today.

The Foresthill public utility district bonded itself to the limit, and completed a water system in the town of Foresthill. This system cost \$215,000, and began water service in 1954, with an initial 140 connections. In October 1963, there were 247 connections.

The water supply of the public utility district depends on springs during the dry season. The Foresthill Public Utility District reservoir of approximately 750,000 gallons capacity provides the only storage in the system. In the 1962-63 fiscal year the public utility district served to its customers a total of 121 acre-feet of water, of which 17.6 acre-feet went to industrial use. During the dry months of the year there was, as usual, a water shortage and it was necessary to curtail service to industrial users. No water was available for irrigation. This shortage during summer months is chronic, and in dry years such as 1959-60, it is necessary to curtail service to domestic users as well.

The sawmills have each developed a limited supply from springs which are estimated to produce about 90 acre-feet per year. Definite figures are not available.

Spring sources produce an estimated 34 acre-feet of water per year in the area west of Foresthill outside of the present public utility district boundaries, but within the project area. Definite figures are not available.

There is an additional source of water utilized at Baker Ranch about 3 miles above the Foresthill Public Utility District reservoir. This supply is fully utilized in that area, therefore, can be of no benefit to the area within the project boundaries. It is probable that the total of all of these sources may, in an average year, produce some 300 acre-feet of usable water. It is probable that if storage were available to conserve water in present sources during the months when demand is less than the supply, a small additional amount might be had for later distribution.

#### WATER SUMMARY

Water service in Foresthill is at a starvation level. At present rate of supply of available water, the public utility district cannot take on additional customers and must, through cooperation with domestic users, curtail their supply in order to supply supplemental water to the lumber mills which are the backbone of the local economy.

The lumber mills, even with supplemental water as above, are restricted in their operations and cannot enlarge their production, or plan to make greater utilization of the wood they haul in from the forest, for lack of water.

Each mill is today air drying many millions of feet of lumber which might better be kiln dried because water is not available with which to operate the increased dry kiln capacity needed to correct and stabilize the operation.

There is no water for irrigation so irrigated farming cannot be considered.

It is to be expected that the impact of the construction of the upper American River project of the Placer County Water Agency will aggravate these conditions through increased population.

The water rates of the Foresthill Public Utility District are necessarily high due to the small amount of water served. Their income is from two sources—taxes and direct water sales. In the fiscal year 1962-63, this income per acre-foot of water sold was as follows:

|                               | <i>Acre-foot</i> |
|-------------------------------|------------------|
| Income from water sales.....  | \$201.78         |
| Income from tax receipts..... | 114.33           |
| Total.....                    | 316.11           |

#### FUTURE DEVELOPMENT

The future development of Foresthill and the surrounding area depends almost entirely upon the development and availability of adequate supplies of water. The Foresthill Divide unit of the Auburn-Folsom south unit, Central Valley project, would accomplish this.

The Foresthill Public Utility District would then be in position to serve all customers requesting service, and the urban area would grow to accommodate the increase in population which is sure to come with the population explosion which is now evident in the State of California.



The lumber mills in Foresthill would be able to increase their production, produce better dry lumber, and expand their facilities for increased utilization and diversification of their products as is being done in other lumber production centers.

The horticulturists who are planting the above-mentioned orchards are of the opinion that under irrigation they could expect to harvest a yield two to four times greater than could be obtained under nonirrigated methods. It would seem that with water available, the area which the bureau engineers have estimated to be suitable for irrigated agriculture, would soon be utilized.

Some increase in the number of cattle sent to market can be expected if it is practical, considering the water costs involved, to raise irrigated pasture. All of these things will contribute to a well-rounded community development which will increase the production and economy of the county of Placer and add to its assessed valuation. It seems more than likely that if this project were already started, it would not be long before the water production of the proposed project would be fully utilized and studies would be necessary for future enlargement of the system.

The people of the Foresthill area passed their public utility district bond issue with a very heavy majority. They passed the \$140 million bond issue for construction of the upper American River project of the Placer County Water Agency with more than a 99-percent affirmative vote. They are water conscious.

These water conscious people of Foresthill thank you for your consideration and for the time you have allowed for this presentation.

Mr. LITTLE. There are just a few points on which I would like to elaborate, the principal one being that the area of the Foresthill Divide would probably not reach its point of ultimate growth without additional water supplies. The water supplies there are completely used as nearly as may be without any storage, and there is a critical shortage in the summertime that limits the delivery of water to industry, and even in a dry year like 1959-60 it was necessary to curtail deliveries to domestic users.

This Foresthill Public Utility District, which, by the way, I also represent, which furnishes the water to the domestic users, and the surplus to the sawmills, has grown up to the point where they have to consider very carefully any applications they get for additional use.

They have at the present time the prospect of 20 new homes to be built, and they have requests for furnishing of water to 330 trailer units. A trailer unit uses almost as much water as a residence.

They are presently furnishing water to a total of 247 units, so that there is at the present time, potential demand for more than double the water now used domestically.

This is in part due to the impact of the construction of the Placer County-upper American River project. But we expect that there will be probably the same amount of increase necessary by the time the project is completed for normal use.

I have stated in my report that the sawmills, which are the backbone of the Foresthill economy, are unable to expand their operations because of lack of water. The additional water is needed for the installation of additional dry kiln capacity, and also for sprinkling.

These mills do their logging in the summertime, and deck sufficient logs to carry them through the winter season. They do not have the water to sprinkle these logs, therefore there is successive end check, and bluing of pine lumber. It requires, to sprinkle a log deck, about 50 gallons a minute per million feet of logs, which means, translated into quantities, that it would take approximately 80 feet per day to sprinkle 5 million feet of log deck. The Stockton Lumber Co. at the present time has 13 million feet of log deck to carry their economy through the winter.



I believe, gentlemen, that concludes any remarks I think I should make.

I have brought with me resolutions from the Foresthill Public Utility District, and from the Foresthill Divide Chamber of Commerce, which I wish to introduce for the record.

Senator Moss. They may be included.

I assume they are both favorable.

Mr. LITTLE. They are all very much in favor of it, Senator Moss.

We are a water starved community. If we were not in favor of it, we would have to have our heads examined.

Senator Moss. Thank you, Mr. Little. We appreciate your coming to bring this statement and introduce these resolutions.

Are there any questions by the committee members?

Apparently not.

Thank you, sir.

Mr. BRODY. Mr. Chairman, I would like next to present Mr. Mike Malaki, chairman of the Board of Supervisors of the County of Sacramento, who in turn will introduce other witnesses.

Senator Moss. All right, Mr. Malaki. Glad to have you, sir.

#### STATEMENT OF MIKE MALAKI, CHAIRMAN, BOARD OF SUPERVISORS, COUNTY OF SACRAMENTO, CALIF.

Mr. MALAKI. Mr. Chairman and members of the committee, my name is Mike B. Malaki, chairman of the Board of Supervisors of the County of Sacramento.

I have with me this morning three of my colleagues from the county of Sacramento, Supervisor Fred A. Barbaria, whom I would like to introduce to you, Mr. Weber Rothwell, our senior utilities gentleman from the public works department, and Don Burton, city and county chamber of commerce.

Senator Moss. Glad to have you, gentlemen.

Mr. MALAKI. The county of Sacramento strongly supports Senate bill 351 because of the service provided by the features included in the Auburn-Folsom south unit of the Central Valley project of California, the construction of which would be authorized by this project, which Sacramento County needs not only to support its population at an economic level, but also their future increases and growth.

I have two resolutions, from the city of Folsom and the water district, and I would also like to leave three or four other resolutions from the Clay Water District, the Galt Irrigation District, and the city of North Sacramento, and the city of Galt.

Senator Moss. All of those resolutions may be submitted.

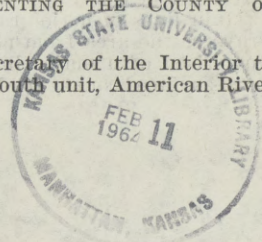
Mr. MALAKI. For the record, Mr. Chairman, the statement has already been filed for this group.

Senator Moss. Thank you, Mr. Malaki. We appreciate your coming here to testify and to bring those resolutions and to submit for the record a full statement on this project.

(The statement referred to follows:)

PREPARED STATEMENT OF MIKE MALAKI, REPRESENTING THE COUNTY OF SACRAMENTO

Senate bill 351 provides authorization for the Secretary of the Interior to construct, operate, and maintain the Auburn-Folsom south unit, American River





division, Central Valley project, California, under Federal reclamation laws.

(1) The Auburn Dam and Reservoir with maximum water surface elevation of 1,140 feet above mean sea level, and capacity of approximately 2½ million acre-feet;

(2) A hydroelectric powerplant at Auburn Dam with initial installed capacity of approximately 240,000 kilowatts and necessary electric transmission system for interconnection with the Central Valley project system; provided, that provision may be made for the ultimate development of the hydroelectric capacity (now estimated at approximately 400,000 kilowatts) and such installation may be made when the Secretary determines that it is economically justified and engineeringly feasible;

(3) The Sugar Pine Dam and Reservoir;

(4) The County Line Dam and Reservoir;

(5) Necessary diversion works, conduits and other appurtenant works for the delivery of water supplies to projects on the Foresthill Divide in Placer County and in the Folsom-Malby area in Sacramento and El Dorado Counties; and

(6) The Folsom South Canal and such related structures, including pumping plants, regulating reservoirs, floodways, channels, levees, and other appurtenant works for the delivery of water as the Secretary determines will best serve the needs of Sacramento and San Joaquin Counties; provided, that the Secretary is authorized to include in such canal and related operating structures additional works or capacity as he deems necessary and economically justified to provide for the future construction of the East Side Division of the Central Valley project.

All of the works proposed in the Auburn-Folsom south unit could be considered directly or indirectly beneficial to the County of Sacramento.

The county's primary interest centers, however, on the direct benefits to be gained from the water supply to be made available by the construction of the Folsom South Canal, the direct water supply and flood control benefits furnished by the County Line Dam and Reservoir and the direct and indirect water supply, flood control, power supply, and recreational benefits from the Auburn Dam and Reservoir, and the Auburn Dam hydroelectric power plant.

#### FOLSOM SOUTH CANAL

In Sacramento County, the Folsom South Canal will furnish a water supply to an area generally referred to as the Folsom South service area.

This service area as delineated in the Folsom south unit, Central Valley project, California, report prepared by the U.S. Department of the Interior Bureau of Reclamation, Regional Office, Region 2, Sacramento, Calif., and issued in April 1956, contains approximately 198,000 acres. This 198,000 acres is part of a 214,000-acre section of the county which is obtaining the majority of its required water supply from an underlying ground water reservoir.

The 214,000-acre section extends about 25 miles south from the American River to Dry Creek, the Sacramento-San Joaquin County boundary, and lies in a 15-mile-wide strip between the Sierra Nevada foothills and the eastern edge of the Sacramento-San Joaquin River Delta at elevations ranging from 5 to 175 feet.

This service area also forms the north part of a half million acres of potentially rich agricultural land extending southward from the American River and the outskirts of the city of Sacramento, between the Sierra Nevada foothills and the trough of the Sacramento and San Joaquin Valleys.

Streams traversing the area in a southwesterly direction from the foothills include the Cosumnes River and Morrison, Laguna, and Dry Creeks. The lands of the area are principally the older terrace hardpan soils although flood plains of varying width consisting of recent soils are associated with the streams.

All beds of the ground-water reservoir are discontinuous and grade abruptly laterally and vertically. A persistent silica-iron hardpan generally from 12 to 30 inches below the surface forms a barrier that impedes deep percolation of the water from the surface in most of the service area.

The navigable Sacramento River generally parallels and lies a short distance to the west of the service area. The completed Sacramento-Yolo port district deep water channel which lies west and generally parallel to the Sacramento River will be easily accessible to the service area.

Main lines of major railroads, the Western Pacific and the Southern Pacific, traverse the area from north to south. An excellent all-weather road network, comprised of a major interstate highway, two State highways, and numerous hard-surfaced county roads, exist in the area.



Adequate power, gas, and telephones are available to the service area with virtually all of the electric power being distributed by the Sacramento Municipal Utility district which utilizes energy generated by the Central Valley project.

Of the 198,000 acres classified as to suitability for irrigation, about 78 percent is class 3, 10 percent class 2, 1 percent class 1, 4 percent class 4 and the remaining 7 percent nonirrigable. Classes 1, 2, and 3 are considered to be arable and class 4 as limited arable.

This area was originally devoted to dryland grain production and dryland pasture. Large scale irrigation began as early as 1900 but because of the general soil types in the area, field crops that are generally shallow rooted are the main crops that can be raised. The underlying hardpan limits the crops to irrigated pastures, seed crops, ladino clover, rice, and small grain. At present approximately 65 percent of the irrigated land is planted to irrigated pasture.

The main communities within the service area are Elk Grove, Florin, and Galt. Galt was founded in 1869, Florin in 1875, and Elk Grove in 1876. Domestic water service is provided Galt and Florin by public water districts, and Elk Grove by a privately owned water company.

Although the rapidly expanding city of Sacramento is crowding the north and west boundaries of the service area, the service area is predominantly agricultural.

Since large scale irrigation began, the irrigated acreage has increased steadily over the years until the present when there are 69,000 acres under irrigation. The biggest increase was from 1946 until 1953 when the number of acres under irrigation increased from 27,000 acres to 54,000 acres.

Although these figures show that there has not been a large increase in lands under irrigation since 1953, this does not mean that new land is not being developed. What it means is that there is a close balance between land formerly irrigated that has reverted to dry land and newly developed irrigated land so that the present acreage under irrigation is somewhat stabilized. Past expansion in irrigated acreage in the service area may be attributed to the rapid population increase of the Sacramento metropolitan area and in the States as a whole, which has created an increased demand for dairy and beef products and farm produce. The population of Sacramento County increased from 277,140 in 1950 to 502,000 in 1960, an increase of 80.4 percent. Most of these products of the service area are presently marketed in the Sacramento metropolitan area, which represents approximately 70 to 75 percent of the county's population. It is reasonable to assume that as the population expansion continues a growing demand for these and other farm products will also continue.

The California State Chamber of Commerce forecasts that the population of Sacramento County is expected to reach 773,200 by July 1970 and 1,073,000 in July 1980. According to the U.S. Bureau of Census the county population in 1960 was 502,778. The 1970 forecast represents 53 percent increase from 1960.

The planning director of the county of Sacramento estimates that the future county population will be in year 1970 (830,000), 1980 (1,260,000), 1990 (1,800,000) and 2000 (2,440,000). These figures are significant in view of the fact this planning director's projected population of 500,000 for 1960 were one-half of 1 percent below the final 1960 census figures.

To increase total production of farm products to meet the growing demand more irrigated acreage will be needed and this, in turn, requires an additional water supply.

In addition to meeting these needs, conversion of dry land to irrigated farming would tend to stabilize the economy of the three-quarters of the service area that now is dry farmed or in native pasture and now depends upon natural rainfall with its unpredictable variations.

During this increase of irrigated acreage there has been a shift to crops with greater water requirements. This shift can be attributed to the growing demand for meat and dairy products in the city of Sacramento and the State, and to the fact that the shallow soils of the area are particularly suited for irrigated pasture. Pumping from wells has continued to supply the increased amounts of water needed for irrigation. This has resulted in an increasing overdraft upon the ground water and a consequent decline in the water table.

Agricultural enterprises presently existent in the area vary from suburban homesites to beef and dry grain operations. The major portion of the irrigated land is being utilized in conjunction with family-type enterprises.

In terms of number and total gross income grade A and B dairies constitute the predominant type of farm enterprise in the service area, beef cattle enter-



prises are next in importance. Dairy cattle produced \$6,176,000 of market and manufacturing milk in 1962.

Lately acreage has been devoted to forage seed crops which are particularly well suited to the soil, climate, and location of the area. Approximately 5,000 acres are devoted to these crops now, and two Statewide seed processing and marketing cooperatives have located plants in the service area which will provide a ready market outlet for any expanded production. Any expanded production depends on the availability of a supplemental surface water supply.

The owner-operated farm enterprises constitute the backbone of the agricultural economy of the service area. Absentee ownership is relatively insignificant and leasehold operation is confined primarily to a few specialty crops. The few corporate-type farms existent in the area account for a relatively small portion of the irrigable acreage.

All but negligible amounts of the irrigation water supplies, and all of the municipal and industrial water supplies in this service area now are obtained from the ground water basin. Ground water pumpage for irrigation and for municipal and industrial requirement has resulted in an overdraft on the ground water basin.

Studies made by the Bureau of Reclamation indicated gross pumpage for the year 1953 of about 209,000 acre-feet. Later studies by consultant engineers for the county of Sacramento estimated that the water requirements for the year 1962 indicated the pumping approached 280,000 acre-feet per year.

Comparison of lines of equal ground water elevation shown for the year 1962, in the county's report with those shown in the Folsom south unit report of 1953, by the Bureau of Reclamation readily shows the rather frightening trend of ground water levels within the study area. This comparison shows that ground water static levels have fallen by as much as 30 feet in localized areas during this 9-year period.

Data in the county's report regarding the average depths to water at 18 deep key irrigation wells and precipitation as measured at Folsom further illustrates the rapidly declining nature of the water table under pumping conditions which exist.

Comparing this data, it is interesting to note that the water level trend in these wells has been steadily downward despite unusually heavy precipitation in water years 1952, 1956, and 1958. That is, at no time during this period was recharge heavy enough to affect complete return of the water level at any one well to the level experienced the spring before.

The continuation of the water table lowering, as has been evident the last 16 years, will, in the very near future, increase pumping cost to a level which will make this ground water supply economically unfeasible for many more of the agricultural enterprises within the service area and for developing new land for irrigation. Without a supplemental water supply which would stabilize water costs at a level which is economically feasible for all agricultural enterprises within the service area, the present irrigated acreage will probably decrease until a pumping depth is reached at which the cost of pumping and returns from investment balance. This condition would result in a large reduction in the number of acres now under irrigation.

The overdraft in 1953 was estimated at 55,000 acre-feet and at present approximately 130,000 acre-feet.

With the water demands on the ground water basin of this service area estimated to reach 326,000 acre-feet in 1970 and 564,000 acre-feet in 1980, the urgent need for the supplemental surface water the Folsom south canal will make available is clearly demonstrated.

Since the agricultural enterprise in the service area has a rather high water requirement while the returns from investment are rather low, this point, considering the ever dropping ground water level can be reached in the very near future.

The county's report completed in May of 1963 also indicates that if more larger and deeper wells are employed in the service area, particularly in the area of greatest ground water depression, disturbance of the connate water underlying the area immediately east of the Sacramento River may cause irreparable damage to a portion of the ground water basin.

Clair A. Hill & Associates, consulting engineerings for the county of Sacramento, stated in a report dated May 16, 1963:

"Based on existing information, it appears that a definite risk to the future ground water supply of the Folsom south service area exists. The continued



lowering of local ground water levels could induce the migration of saline waters eastward and upward. Particularly dangerous, in view of this possibility, would be the drilling of deep wells within the western portion of the service area, which could draw fresh water from aquifers extending to the fresh-salt water interface. For this reason, it is recommended that new wells situated in the western portion of the service area not be driven to depths exceeding 500 feet."

Under long-term future conditions without project development, an estimated 43,600 acres of land in the service area would be irrigated in any one year. This represents 10,500 acres less than was irrigated in 1953 and 25,400 acres less than now being irrigated.

The acreage withdrawn from irrigation presumably would revert to dry-farmed grain production. With full project development, it is estimated that the irrigated area would be greater by about 89,500 acres than at present.

There would be an estimated 1,673 farm units in the service area with project development or about 950 units more than anticipated without project conditions.

It is estimated that the overall average farm unit would be approximately 100 acres.

The Folsom south unit report prepared by Bureau of Reclamation region 2 personnel estimates that the 149,500 acres to be irrigated in any one year under full development has a weighted mean water requirement of 3.84 acre-feet per acre or a total season water requirement of 574,000 acre-feet. Meeting this demand will require that a total of 440,000 acre-feet of water be diverted from the Folsom Dam Reservoir to the Sacramento County service area via the proposed Folsom South Canal for integration with the available safe ground water supply and reused return flow waters from project drains.

With this supplemental water supply available canal side at an average price of \$2.77 per acre-foot, it will be possible for this Folsom South Canal service area to develop a water supply that will be economically feasible, and thus be able to prevent the economic hardship that would ensue if the present ground water overdraft continues; to reduce the drought hazards inherent in dry farming; and to assist in satisfying the growing food needs of the ever-expanding Sacramento metropolitan area; as well as to provide increased opportunities for farm development.

Public recognition of this need for a supplemental water supply was evidenced by the formation of a county water agency and of irrigation and water districts in the south area of Sacramento County a few years after the Folsom Dam and the Nimbus Dam were authorized in 1949 for construction and addition to the Central Valley project.

The Sacramento County Water Agency was formed, at the request of Sacramento County officials by an enactment of the State legislature, in the first extra session of 1952.

The Sacramento Water Agency Act which created this countywide public agency provides that the Board of Supervisors of the County of Sacramento be the directors of the agency. Under this act the agency has the power to develop water supplies, contract with State and Federal agencies to purchase a water supply, contract with other public districts or private companies for the sale of an agency water supply, sell water retail, to levy taxes, hold bond issue elections and any other functions which are necessary to fulfill the purpose of the act. It also has zoning powers which enables it to limit the costs of a project to the area receiving the benefit of the project.

The Elk Grove Irrigation District, containing about 83,000 acres, was formed in September 1952, and includes the greater portion of the service area lying north of the Cosumnes River. The Galt Irrigation District, containing approximately 36,000 acres was formed September 29, 1953, and includes a large portion of the service area lying between the Cosumnes River and Dry Creek. The Clay Water District containing about 6,000 acres was formed in 1955 and includes land just to the east of the Galt Irrigation District, and north of Clay.

The Omoichumne-Hartnell Water District was formed in 1956 and contains 30,000 acres. This district runs approximately east and west astraddled the Cosumnes River and includes most of the Cosumnes River flood plain.

The primary purpose for the formation of these districts, with the exception of the Omoichumne-Hartnell District, was to obtain supplemental water supplies from the American River and to be in a position to negotiate with the Bureau of Reclamation or the Sacramento County Water Agency for water service as soon as water is available.

The Omoichumne-Hartnell Water District was wormed to protect the area's water rights along the Cosumnes River and to work for the construction of the



Nashville Dam now under study by the Bureau of Reclamation, for the past 3 years. This district has purchased water from the Sky Park project which is operated in conjunction with the Folsom Dam.

In the latest developments of the Folsom South Canal unit and the Cosumnes River division unit the area of the Omoichumnes-Hartnell Water District has been included in the service area of the Folsom-South Canal rather than the Cosumnes River division.

The acres covered by these districts represents 77 percent of the total acreage in the service area.

Since the Sacramento County Water Agency includes the entire service area, public water districts are available to represent the entire service area.

Any area within the service area not part of a public water district can be made zones of the Sacramento County Water Agency and contract for a supplemental water supply from the Folsom South Canal through that medium. It is even possible to zone the entire service area for this purpose if this way was to prove more equitable to everyone.

The initial Folsom south unit report issued by the U.S. Department of the Interior, Bureau of Reclamation, regional office, region 2, in April 1956, considered the Folsom South Canal and related appurtenants to be constructed only in Sacramento County with provisions for future extension into San Joaquin County.

This report determined that based on a 50-year period, the ratio of total benefits to costs was 3.33 to 1 and the primary benefits-to-costs ratio was 1.50 to 1. When the benefits to costs was based on a 100-year period rather than 50, total and primary benefits-to-costs ratio became 3.78 and 1.70 to 1, respectively.

The Folsom South Canal being proposed as a feature of the Auburn-Folsom south unit is a 67½-mile canal designed to convey water from the American River and distribute it for irrigation and municipal use in Sacramento and San Joaquin Counties.

Based on a 50-year period, the ratio of total benefits to costs is 4.3 to 1 and direct benefits to costs is 1.68 to 1. For a 100-year period the total and direct benefits-to-costs ratios are 4.70 to 1 and 1.97 to 1, respectively.

Construction of the Folsom South Canal is engineeringly feasible and the favorable benefit-to-cost ratio effectively demonstrates the economic justification of the proposed project to the benefit of the area involved, the State and the Nation.

#### COUNTY LINE DAM AND RESERVOIR

The prospective County Line service area, identified as the Folsom-Malby service area, lies above the proposed Folsom South Canal, between the American and Cosumnes Rivers in easterly Sacramento and westerly El Dorado Counties. The Sacramento County portion of this service area is approximately 20,000 acres.

The general area has the gently rolling to hilly relief usually associated with the foothills of the Sierra Nevada Mountains. Elevations vary from less than 300 feet near the west boundary of the service area to over 800 feet in the El Dorado County portion of the service area. Two creeks, Deer and Carson Creeks cut the area from east to west with Deer Creek furnishing the site for the proposed County Line Dam, Reservoir, and pump plant.

At the present time, the land is mainly used as dry pasture for cattle. The area is sparsely populated, and there is little or no irrigated agriculture.

The main reason why this Malby area is largely undeveloped is the lack of an adequate water supply and distance from the metropolitan area.

However, as the more favorable lands close to the metropolitan center have become more intensely utilized, the newer developments have located further from the metropolitan center. There exists today very extensive urban developments north of the American River in areas which are quite comparable to the Malby area in terms of topography and climate conditions and in terms of both distance from and accessibility to the city of Sacramento. The chief distinction between the Malby area and the lands north of the American River lies in the availability of water supplies.

To the north and east of the Malby area where a water supply is available, extensive urban developments are now taking place. Along the western edge of the Malby area, where again a water supply is available, is one of Sacramento County's largest industrial developments, the Aerojet-General Corp. This corporation, one of the Nation's largest aerospace industrial developments, employs approximately 20,000 people.



Although immediately adjacent to this industry, the Malby area has not been able to assist in meeting the needs of the increasing population pressures associated with burgeoning industrial development because of a lack of water supplies.

The plan of development selected for the Folsom-Malby area would provide a municipal and industrial water supply. Irrigation use was considered but not projected because of poor soil conditions and proximity to urban areas.

It is anticipated that the water demand of approximately 24,000 acre-feet annually would reach full development in about 25 years following the first full year of project operation. At an average population density comparable to that now existing in suburban areas north of the American River, there would be some 40,000 people living in the service area at full development.

As stated previously, the rapid population increase in the Sacramento metropolitan area and in the State as a whole has created an increased demand for dairy and beef products as well as other farm products. To increase total production of these products more irrigated acreage will be needed.

Because of the availability of water supplies urban and industrial developments are being constructed on irrigated land, thus withdrawing the better county agricultural lands from important food production.

Providing a water supply to the Folsom-Malby area would make it possible to shift this urban and industrial development to lands not suitable to intensive irrigation agriculture.

This shift would allow the agricultural, municipal, and industrial development of the county to be carried out with a better overall balance.

The Bureau of Reclamation regional director, region 2, conditioned his recommendation of the Folsom-Malby features on the provision that a suitable district is organized and repayment contracts executed prior to the start of construction.

The Sacramento County Water Agency through its rezoning powers can provide a suitable public district with the power to execute repayment contracts.

The county of Sacramento in July 1959 had representatives endorse and express their support for construction of the Folsom-Malby features at a public hearing held by the California Water Commission for the purpose of determining local views on the Folsom South unit.

Both the service area of the Folsom South Canal project and the Folsom-Malby project fit into the California water plan. The California State Department of Water Resources has in all its published plans for the ultimate development of the Sacramento and San Joaquin Valleys considered that these service areas would best be served a water supply from storage on the American River.

The California State Water Rights Board in issuing the permit at Folsom Dam to the U.S. Government designated Sacramento County as a service area and at the same time recognized the area's right to contract with the U.S. Government for a water supply from Folsom Dam by conditions in the permit as follows:

"14. Deliveries of water under permits issued pursuant to applications 13,370 and 13,371 shall be limited to deliveries for beneficial use within Placer, Sacramento, and San Joaquin Counties and shall not be made beyond the westerly or southerly boundaries thereof, except on a temporary basis, until the needs of those counties, present or prospective, are fully met, provided, however, that agreements in accordance with Federal reclamation laws between permittee and parties desiring such service within said counties are executed by July 1, 1968."

These two projects also fit into the overall water plan of the county of Sacramento for providing a water supply to all the area of the county east of the Sacramento River Delta lands. The proposed service areas of these two projects, the proposed service area of the contemplated Nashville Dam on the Cosumnes River and the area that can be served by the existing water rights of the Natomas Water Co., of Folsom, Calif., would cover this entire section of the county. The Natomas Water Co. is now furnishing water to the Aerojet-General Corp.

The benefit-cost ratio of the entire Auburn-Folsom South unit project was estimated by the Bureau of Reclamation to be 3.71 to 1 while the benefit-cost ratio for the Folsom-Malby feature of the project was estimated to be 2.10 to 1.

This benefit-cost ratio was determined from the municipal and industrial water service, flood control, recreation, and fish and wildlife benefits received from the construction of this feature of the project.

The flood control, recreation, and fish and wildlife benefits received by Sacramento County from this feature of the proposed project will be discussed later.



## AUBURN DAM AND RESERVOIR

Although the Auburn Dam and Reservoir are outside the county its construction will furnish the county of Sacramento direct and indirect benefits.

It is noted in the Auburn-Folsom South units report that this project develops eight distinct types of benefits. Of these eight, the irrigation, municipal, and industrial water supply, commercial power, flood control, recreation, and fish and wildlife benefits could be considered as applying to Sacramento County.

All investigations of the Auburn-Folsom south unit project recognize that in order to meet the irrigation, municipal, and industrial water supply demands of the Folsom South Canal service area's ultimate development, the water conserved and stored in the Auburn Dam Reservoir will have to be used.

As stated earlier virtually all of the electric power consumed in Sacramento County is distributed by the Sacramento Municipal Utility District. At present this district is utilizing energy generated by the Central Valley project and is also developing their own sources of power energy on the American River.

There is little doubt that because of the ever-increasing demands created by the continuing population and economic growth of the utility district's service area, the added sources of electric power offered by the proposed hydroelectric plant at Auburn Dam will be most welcomed.

It is only the continuing availability of public power sources such as the Central Valley project and the utility district project that will make it possible for Sacramento County to have the lower power rates which have been and will continue to be an important factor in the county's economic growth.

The flood control, recreation, and fish and wildlife benefits received by Sacramento County from this feature of the proposed project will be discussed hereinafter.

## SUGAR PINE DAM AND RESERVOIR

The Sugar Pine Dam and Reservoir feature of the Auburn-Folsom South unit is also located outside of Sacramento County but the recreational and fish and wildlife benefits attributed to this feature are of some benefit to Sacramento County.

These benefits can be evaluated in the general discussion on recreation and fish and wildlife presented hereinafter.

## FLOOD CONTROL

The value of flood control has been clearly illustrated this past year in that the Army Corps of Engineers figured dams, levees, and bypasses in the Sacramento Valley combined to prevent \$205 million in damages during the storms in January 1963.

The need for further flood control facilities for the Sacramento area is also emphasized from the facts of this 1963 storm. Despite the tremendous flood control work that has been accomplished to date, the fact remains that during this storm there were anxious moments regarding the adequacy of the existing flood control works.

During its approximately 10 years of existence, the Folsom Dam has three times been credited with saving the Sacramento area from floods. In 1955 only the fact that at the time the heavy rainstorms started, the water level in the Folsom Dam was lower than usual or contemplated during usual operation and the storm did not last 1 more day, saved areas below the dam from serious flood damage with accompanying heavy financial losses.

The Auburn Dam can help take a portion of this ever-possible flood load from the Folsom Dam and possibly eliminate damages and complaints caused by the fast release of water required when the level of Folsom Lake jumped from 443,500 to 835,000 acre-feet in a little more than 2 days during the 1963 storm.

The County Line Reservoir will furnish flood control to downstream lands which are all located in Sacramento County.

Since Deer Creek flows into the Cosumnes River which in turn flows into the Mokelumne River, any decrease in its floodflow is certain to benefit the Cosumnes-Mokelumne River Basin which undoubtedly would also be experiencing floodflow conditions.

The Auburn-Folsom South unit report estimates the annual equivalent flood benefits for Auburn Dam at \$375,000 and for the County Line Reservoir at \$80,000.

When considering the need for flood-control facilities, it has to be recognized that, the ever-increasing residential, commercial, and industrial developments in



the Sacramento County area annually increase the possible financial losses that could occur from a flood.

In the unincorporated area of Sacramento County the total value of construction increased approximately 37.6 percent during the 1962-63 fiscal year. This increase represented a total of \$117 million in construction.

The Office of the Chief of Engineers, Department of the Army, has stated that a review of the Auburn-Folsom unit report indicates that there would be no conflict between the proposed project and existing projects or plans of the Corps of Engineers.

#### RECREATION

When the practically year round recreation season of Sacramento County is added to the shorter workweek, increased leisure time, accelerated highway construction leading to greater public mobility, and the forecasts of great population increases, the need for developing the high recreation potential of the Auburn-Folsom South unit, to provide significant opportunities for water-oriented outdoor recreation, can readily be evaluated.

The proposed recreational areas of the Auburn, Sugar Pine, and County Line Reservoirs will all be located within 1 hour or less traveling time from the metropolitan area of Sacramento but certainly will not be the exclusive recreational playground of this area.

A project report on the recreation resources of the Auburn-Folsom south unit prepared by the U.S. Department of the Interior National Park Service, Western Region, San Francisco, Calif., in March 1963, considers the recreation use area of these reservoirs, along with the existing Folsom Lake State Park at Folsom Lake and Lake Natoma which is nearest to Sacramento, to include the four closest counties—El Dorado, Placer, Nevada, and Sacramento—plus nine contributing San Francisco Bay area counties.

This report estimates that in 1960 there were approximately 4,250,000 potential day-use visitors living within the recreation-use zone.

Records indicate that the average annual visitation at the Folsom Reservoir for the 1958-61 period was 1,774,830 visitor-days with the attendance for 1961 being 1,968,498. Because of low water levels in late July and August the visitor-days dropped from 2,175,755 in 1960 to 1,968,498 in 1961. With water releases from Auburn Reservoir into Folsom Reservoir resulting in its stabilization and more efficient use of existing and additional basic facilities and without acquisition of additional lands, the 1961 attendance estimate would immediately raise to approximately 3,300,000 visitor-days.

The natural resources report anticipates, that, with the installation of optimum public use facilities at Auburn and Folsom Dams, a point of optimum use visitation would be reached at both reservoirs by the year 1985. For Auburn this figure is estimated to be 5 million and for Folsom 10 million visitor-days.

For the County Line Reservoir the estimate, based on the installation of basic recreation facilities, is 300,000 visitor-days from within a radius of 35 miles. Optimum use is estimated at about year 2000. With water-contact recreation use precluded, initial visitation is estimated at 150,000 and the optimum use at 700,000 visitor-days.

The estimate for the Sugar Pine Reservoir is 30,000 visitor-days with basic recreation development and 100,000 visitor-days with optimum development. Since this is a terminal reservoir water-contact recreation should be permitted.

It is evident from the figures quoted in the natural resources report that the existing recreational facilities of Folsom Lake State Park will not be sufficient to meet the future needs of the described feasible recreation use zone as well as Sacramento County.

One benefit the proposed recreation developments will furnish Sacramento County is the expanded opportunity for its population to engage in diversified water-oriented recreation at relatively short distances from their home. Sacramento County's interest in this type of recreation is well illustrated by the fact that it has the second largest boat registration in the State.

Another benefit is that a large number of the visitors to the proposed recreational facilities from the San Francisco Bay area counties will either pass through or make their headquarters in the Sacramento metropolitan area during their visits. This should contribute substantially to the economy of the area.

In conclusion it can be stated that the Auburn-Folsom South unit of the Central Valley project, California, has been found to be economically and engineeringly feasible in reports made on these projects by the Bureau of Reclamation. There is support for the project by local interests, and it is very important to the



agricultural, municipal, and industrial development of the county of Sacramento as well as to the economy of the county.

In view of these facts the Board of Supervisors of the County of Sacramento strongly endorses the Auburn-Folsom South unit, Central Valley project, California, and urges early construction of the facilities as a Federal reclamation project to assist in implementing the county of Sacramento's overall water development program.

Senator Moss. You may call the next one, Mr. Brody.

Mr. BRODY. Our next witness is Vice Mayor Willard E. Nielsen, of the city of Sacramento, Mr. Chairman.

Senator Moss. Mr. Nielsen, glad to have you here, sir.

# **STATEMENT OF WILLARD E. NIELSEN, COUNCILMAN AND VICE MAYOR, CITY OF SACRAMENTO, CALIF.**

Mr. NIELSEN. Thank you, Mr. Chairman.

I am Willard Nielsen, vice mayor and councilman of the city of Sacramento, and I would also like to introduce my fellow councilman, Mr. Thomas Murphy, and our engineer and director of public works, Ed Fairburn.

Senator Moss. How do you do, sirs. Glad to have you.

Mr. NIELSEN. I have prepared a very nice statement, here, which I have rehearsed and wanted to give to you in good order, but I find by this time all the items have been rather sufficiently covered, so in the interest of brevity, I would just like to have the statement filed as a part of the record, together with our resolution from the city of Sacramento, endorsed unanimously by the city council, favoring this project.

Senator Moss. That certainly will be done, and they may be made part of the record in full.

(The statement referred to follows:)

## **PREPARED STATEMENT OF WILLARD E. NIELSEN, COUNCILMAN AND VICE MAYOR, REPRESENTING THE CITY OF SACRAMENTO, CALIF.**

My name is Willard E. Nielsen, councilman and vice mayor of the city of Sacramento. The Auburn-Folsom south unit CVP, which would be authorized by S. 351, would benefit a large area of central California, including my own city. Several counties, of which Sacramento is the hub, hold this project as a key to their future development. The two greatest benefits of this project to Sacramento City will be, first, the safety which will come from the control of floods on the American River and, secondly, the additional recreational facilities which will be made available. To the whole area of central California will come additional water supply for farms, for cities, and for industry, plus the other benefits first mentioned.

### **FLOOD CONTROL IS AN IMPORTANT BENEFIT**

The Sacramento area has been menaced by devastating floods from the American River for all of its history. Folsom Dam brought the first real measure of protection. Yet in 1955, with a very low reservoir, we saw Folsom spillways discharge after only 4 days of a very bad storm. Last fall, in 1962, there was repetition and within a short 24-hour period it was necessary to release tremendous flows which reached the designed capacity of channels adjacent to Sacramento and severely taxed the levees which protect this densely populated area. The new Auburn Dam will greatly increase the flood protection capabilities now afforded by Folsom Dam alone. We need this additional flood protection badly.

### **CREATION OF NEW RECREATIONAL FACILITIES IS ANOTHER IMPORTANT BENEFIT**

The use of Folsom Reservoir as a recreational facility has far surpassed the earlier hopes and predictions. Auburn Dam will serve to reduce the extreme



water level fluctuations now experienced at Folsom Reservoir and this will improve Folsom's recreational capabilities. In addition, Auburn Reservoir will add a second manmade lake of even greater size. Folsom State Park, created around Folsom Reservoir with the assistance of Federal authorities, is the most heavily used inland facility of the entire State park system. During the 1962-63 fiscal year Folsom State Park had 2,800,000 visitor-days. This is almost twice the use experienced by Yosemite National Park itself. It is also interesting to note that there were 74,000 boats launched at State-operated facilities in Folsom Park last year. This high use of Folsom Park can be attributed to its close proximity to large and growing metropolitan populations. The recreational asset of Folsom Lake will be duplicated by an even more attractive and equally accessible lake behind the proposed Auburn Dam. This recreational benefit ranks high among the values of the proposed project.

#### INCREASED DOMESTIC WATER SUPPLY IS A BENEFIT

Sacramento City is most fortunate in that it has a contract with the Bureau of Reclamation to guarantee its domestic water supply. But lying east and south of Sacramento are rapidly growing urban communities which do not have a firm and reliable domestic water supply. Our neighbor city of Stockton is in this plight. Auburn-Folsom south unit will provide these people with adequate water.

#### IRRIGATION BENEFITS ARE IMPORTANT

Along the eastern portions of Sacramento County, and south into San Joaquin County, are large agricultural areas where ground water levels are dropping to the extent that economical farming is becoming increasingly difficult. Water from Folsom South canals can restore productivity to these lands and bring new agricultural opportunity to these farm people.

#### INDUSTRY WILL BENEFIT

The Folsom South Canal, together with the Folsom-Malby unit, will make available ample supplies of water for industrial users such as Aerojet-General Corp. and Douglas Aircraft, prime missile producers, and the area's largest industrial complex. The storage of water in the proposed new Auburn Reservoir will also mean additional hydroelectric power as the waters are released to the canal system. All types of users—urban, agricultural and industrial—will benefit from this new power.

#### THE PROJECT BENEFITS CAN BE SUMMARIZED

The excellent benefit-cost ratio which Bureau studies have indicated for this project is proof of its economic soundness. The people of our area will get better flood control, better recreational facilities, and at the same time tens of thousands of acres will have a firm supplemental water supply for more productive farms. There will be water developed for domestic use and for industry. Sacramento lies in the center of the area to be benefited and we earnestly ask your help in bringing this project to reality.

Senator Moss. Do you have any comments you want to make?

Mr. NIELSEN. Just to say this, Senator: We believe this to be a good bill, and we ask your earnest support of it.

Senator Moss. Thank you. We appreciate that.

Mr. BRODY. I will next call upon Milon L. Johnston, president of the Elk Grove Irrigation District, Mr. Chairman.

Senator Moss. Mr. Johnston, come forward, please.

#### STATEMENT OF MILON L. JOHNSTON, PRESIDENT, BOARD OF DIRECTORS, ELK GROVE IRRIGATION DISTRICT, SACRAMENTO COUNTY, CALIF.

Mr. JOHNSTON. Mr. Chairman and members of the committee, my name is Milon L. Johnston, a farmer and chairman of the board of



directors of the Elk Grove Irrigation District, Elk Grove, Sacramento County, Calif.

I am the only delegate directly representing agriculture from Sacramento County. Our board is unanimously in favor of the project, and you have a copy of our resolution.

I have a short statement that I will read.

Senator Moss. Go ahead. Go right ahead, sir.

Mr. JOHNSTON. I herewith summarize certain facts about my area, Elk Grove, Sacramento County, Calif., that lead to its present need for supplementary water. I will present a short review of the past history of water in this area. I will do this by describing the underground water situation at my own ranch near Elk Grove.

My ranch is typical of most farms in the area. My grandfather purchased it in 1882. It is 160 acres of level, tillable land. By 1886, my grandfather had planted 40 acres to grapes and 40 acres to Bartlett pears. Until 1890, these trees and grapes did very well with little or no irrigation.

Shortly after 1890, it was evident, by the lack of summer growth, that the trees and vines needed to be irrigated to survive. The first means of irrigation was done by windmills from small wells.

In the spring of the year, ground water would be at a depth of about 6 feet. The windmill wells would be approximately 15 to 20 feet deep, pumping from 12 to 14 feet in midsummer. By 1900, the vineyards had grown and produced many prosperous crops, due to summer irrigation.

By 1910, the water table had dropped, and our farm could no longer depend on the windmill wells to irrigate our crops. In 1908, our first centrifugal pump was installed in a pit 12 feet deep and the well had a depth of 80 feet. The pump was driven by a 20-horsepower gas engine.

By 1918, the water table had dropped to about 20 feet, and it was then necessary to dig a deeper pit, and place the pump closer to the water. The well was deepened to 160 feet. Electric power was now available, and the pump was now driven by an electric motor.

A few years prior to 1918, many farmers in Elk Grove vicinity had started small dairies for the reason that prohibition decreased the demand for grapes, prices dropped, and many of the farmers were forced to seek other means of livelihood, and therefore started small dairies.

By 1930, many vineyards had been removed, and the land planted to dairy feed. Ladino clover was introduced into the Elk Grove area in 1929, as a summer pasture for dairy cattle.

It proved a very successful crop, and many acres were planted to this summer irrigated feed, but the irrigated pasture drew heavily on our underground water supply, and by 1932, standing water in the wells was at 35 feet. In 1932, it was again necessary to lower our pump and dig our well deeper, this time to 265 feet.

It was after completion of the Shasta Dam, around 1938, that we could really notice the water table dropping. Prior to this time, during the months of February and March, when the Sacramento River was high and the lakes to the west of our ranch were full, it was not uncommon to see the water level in our well raise from 3 to 5 feet.

In 1940, to secure enough water to produce our crops, it was neces-



sary to install turbine pumps. During the 1940's, the irrigated pastures in the Elk Grove area had more than doubled.

In 1948, it was necessary to again deepen our well, this time to 360 feet, and add more columns to our turbine pump to secure sufficient water for our needs.

Again, in 1956, we were faced with the problems of securing more water. This time we lowered our well to 660 feet, and added more columns to get the desired amount of water. At this time, we were pumping from 85 feet.

In 1960, I was again forced to change our pumping plant. This time we had to greatly increase our motor horsepower, and change the bowls on the pump, as the pumping level had dropped to around 100 feet.

My neighbors and I cannot go much deeper with our wells to secure a better water supply, as salt water has been found in our area, when going to about 800 feet.

As I have shown you, since 1935, it has required the expenditure of large sums of money to keep ahead of our water problem. The water table, currently, is dropping at a very rapid rate. In 1935, the pumping level was 42 feet, today it is 110 feet. The cost will soon be prohibitive to pump water from wells, for the type of soil characteristic to this community.

There are plenty of indications, at this time, that the farmers in Elk Grove area are hesitant to improve their farms, due to the uncertainty of the present water supply. Our lands must have supplemental water, if we are going to continue to have a prosperous community.

From the story I have told, you may easily understand that the water is the root of our area's progress and prosperity.

Senator Moss. Thank you, Mr. Johnston.

That is indeed a dramatic story, indicating the constant need to deepen your wells, and I am sure that this will have influence on the committee when we read your testimony.

Thank you, sir.

Mr. JOHNSTON. Thank you.

Mr. BRODY. Mr. Chairman, by your leave, we would ask that the resolution to which Mr. Johnston referred, of the Elk Grove Irrigation District, be made part of the record.

Senator Moss. It will be made part of the record.

Mr. BRODY. Our next witness, Mr. Chairman, is a man who has long been interested in and familiar with the water resource problems of his area of the State, Mr. Vernon Lehman, who is a member of the Board of Supervisors of San Joaquin County.

Senator Moss. Mr. Lehman, glad to have you, sir.

#### STATEMENT OF VERNON LEHMAN, VICE CHAIRMAN, BOARD OF SUPERVISORS, SAN JOAQUIN COUNTY, STATE OF CALIFORNIA

Mr. LEHMAN. Mr. Chairman and members of the committee, my name is Vernon Lehman. I am vice chairman of the Board of Supervisors of San Joaquin County.

With me here today is Mr. Frank Hoyt, also a member of our board of supervisors, and I would like to introduce him at this time.

Senator Moss. Very glad to have you, sir.



Mr. LEHMAN. We are here in support of the Folsom south project. San Joaquin County is primarily an agricultural county. In fact, we are the fifth ranking county in the United States in point of agricultural products produced.

Most of what I was going to say has already been said.

I have a statement here for the record, also a copy of the Kennedy report, which shows requirements of our county, present and future, and a resolution adopted by the Board of Supervisors of San Joaquin County Flood Control and Water Conservation District.

I would like to say that we view this project as a rescue project just to maintain the economy of our county.

Also at this time, Mr. Chairman, with me here today is the mayor of the city of Stockton, the county seat of San Joaquin County, whom I would like to introduce, and I think he has a statement for the record.

Mayor Roger Huckins.

Senator Moss. Mayor Huckins, we are very glad to have you, sir.

Your statement in full, and your resolution, Mr. Lehman, will be placed in the record and the Kennedy report will be in the files of the committee and be a part of the record by reference.

(The statement referred to follows:)

PREPARED STATEMENT OF VERNON LEHMAN, VICE CHAIRMAN, BOARD OF SUPERVISORS  
OF THE COUNTY OF SAN JOAQUIN, STATE OF CALIFORNIA

Mr. Chairman and members of the committee, my name is Vernon Lehman. I am vice chairman of the Board of Supervisors of San Joaquin County, State of California. With me today are Mr. Frank Hoyt; also a member of our board, and the county's consulting engineer, Mr. William Gianelli. This statement is being made on behalf of the Board of Supervisors of the San Joaquin County, the members of which are also the supervisors of the San Joaquin County Flood Control and Water Conservation District, a countywide district embracing all of the territory of San Joaquin County. A resolution of the board of supervisors, authorizing this presentation and endorsing the Auburn Dam-Folsom south canal project, is attached hereto. Mr. Hoyt and I represent the agricultural areas in San Joaquin County which urgently need the early authorization and construction of the Auburn Dam-Folsom south canal project.

The San Joaquin County Flood Control and Water Conservation District was created by an act of the California State Legislature in April of 1956, known as the San Joaquin County Flood Control and Water Conservation District Act (ch. 46, California Statutes 1956, first extraordinary session). Broadly, its objectives are to provide for the control of floodwater, to provide for a supplemental water supply, to conserve floodwater for beneficial use, and to protect life and property within the district. The district has broad powers of eminent domain and taxation, the ability to incur bonded indebtedness, to cooperate with Federal and State agencies, and to perform work beneficial to the district.

The population of San Joaquin County has increased from approximately 200,000 to 250,000 persons in the past 10 years, or an increase of approximately 25 percent. The San Joaquin County Planning Department presently predicts a 1980 population in San Joaquin County of from 385,000 to 470,000. The population of the city of Stockton, the county seat of San Joaquin County, has risen from approximately 71,000 in 1950 to approximately 86,000 in 1960, an increase in excess of 20 percent which also reflects generally the growth of the other incorporated cities within the county.

The Folsom South Canal will service almost the entire east side of our county with an urgently needed supplemental water supply. Our county is predominantly an agricultural county, ranking fifth in the Nation in value of crops produced, and the future economic health of the county is dependent upon the ability of agriculture to continue to be able to secure an adequate water supply within its ability to pay. At the present time, approximately 80 percent of the acreage of the proposed service area in San Joaquin County is supplied



by pumping from ground water basins. Many of our irrigation wells continue to fall rapidly with resultant costs for well deepening as well as greater pump lift costs. The present overdraft of ground water supplies indicates that under long-term future conditions, without the Folsom South Canal, present irrigated acreage in the Folsom South Canal service area would have to be reduced materially. We wish to emphasize that for San Joaquin County this is a project primarily to preserve our economy that now exists.

A crop survey in the potential Folsom South Canal service area in San Joaquin County, made in 1958, showed that approximately 186,000 acres were irrigated out of a total of 233,000 acres of agricultural land. Irrigated pasture and alfalfa account for approximately one-third of the irrigated lands; grapes and deciduous orchards also occupy approximately one-third, with the other one-third in rice, sugarbeets, beans, canning tomatoes, and truck crops. It is estimated that between 90 and 95 percent of the farms in the Folsom South Canal service area are family-type farms with less than 160 acres.

San Joaquin County interests have recognized for many years that the answer to their supplemental water supply requirements in the eastern portion of the county depends upon importation of water into the area and that the most logical source for the major portion of such imported supplies is the American River immediately to the north. In the past, San Joaquin County interests have actively supported the construction of Folsom Dam and Reservoir as the conservation feature which would supply a portion of the water for the proposed Folsom South Canal. In this connection, various interests within the county filed applications with the State of California to appropriate water from the American River in anticipation of the delivery of water through Folsom South Canal to areas in San Joaquin County. Among the agencies in the county which filed for this American River water in the late 1940's were the California Water Service Co., which presently serves domestic and industrial water within the Stockton metropolitan area, the city of Stockton, primarily concerned with service of municipal water within its limits, the North San Joaquin Water Conservation District, which embraces the northeastern portion of the county and the city of Lodi, and the Stockton and East San Joaquin Water Conservation District, which includes the agricultural areas in the central eastern portion of the county and the city of Stockton. Rather than granting the necessary State water rights to the individual entities for a water supply from the American River, the State water rights board granted water rights to the U.S. Bureau of Reclamation and directed, under the permits so granted, that project service would be limited to deliveries for beneficial use within Placer, Sacramento, and San Joaquin Counties, provided that the parties desiring such service within these counties executed agreements in accordance with Federal reclamation law by 1969. Several agencies within San Joaquin County are now negotiating with the Bureau of Reclamation for such contracts.

Related to the matter of entering into water service contracts with the U.S. Bureau of Reclamation, the San Joaquin County Board of Supervisors, through a bill introduced by its State legislators in 1961, sponsored amendments to the San Joaquin County Flood Control and Water Conservation District Act for the specific purpose of affording the countywide agency authority to enter into contracts with the United States for the delivery of Folsom South Canal project water in the event that individual areas within the county were not in a position to enter into the required repayment contracts. Accordingly, the California State Legislature enacted legislation (ch. 933, California Statutes 1961) which will allow the countywide district to enter into contracts with the United States for water from the Folsom South Canal. We believe that this is an important example in illustrating that San Joaquin County desires to do everything possible to insure the repayment of the irrigation features of the Auburn Dam-Folsom South Canal project.

As an aid in determining its future water requirements the Board of Supervisors of San Joaquin County has financed a water requirement study by one of the leading engineering firms in California. This study has recently been completed and a copy of the report entitled "Water Requirements for San Joaquin County" is appended to this statement for the record. We have also delivered extra copies to your staff personnel.

As a part of this countywide study we asked this engineering firm to study the future requirements of the Folsom South Canal service area, which requirements are detailed separately in the report. It is estimated that the population of the Folsom South service area in San Joaquin County will increase from the



present approximately 200,000 to in excess of 800,000 in the year 2020. The present annual supplemental water requirement of 382,590 acre-feet will increase to approximately 736,000 acre-feet in the year 2020. The present annual supplemental water requirement exists primarily as a result of overdraft in the ground water basins. We believe Folsom South Canal will meet approximately one-half of the ultimate water requirements of the Folsom South Canal service area.

It has been a pleasure to appear before your honorable committee today and should you desire further information with respect to the need for Auburn Dam-Folsom South Canal in San Joaquin County we will be pleased to supply it to your committee.

Senator Moss. We do appreciate your coming to bring this to us, and we will be glad to hear from the mayor at this point.

#### STATEMENT OF ROGER M. HUCKINS, MAYOR, CITY OF STOCKTON, CALIF.

Mr. HUCKINS. Mr. Chairman and members of the committee, my name is Roger M. Huckins. I am mayor of the city of Stockton, which I represent today.

I would like to present our city manager, Mr. Frank Fargo.

Senator Moss. We are very happy to have you, sir.

Mr. HUCKINS. Representatives of the city of Stockton have been privileged to appear before your honorable committee from time to time urging the prompt authorization and construction of the Folsom south unit of the Central Valley project.

And we do support the bill S. 351, and the Department of Interior position as cleared by the Bureau of the Budget.

The committee, I am sure, is familiar with the areawide consequences of the overdraft on the underground water supply, but may not be as familiar with the specific effect of this overdraft in the Stockton area.

The geographical situation of the city is particularly fortunate because of its tributary agricultural area which includes some of the most highly developed land to be served by the Folsom South Canal and also the rich delta islands to the west.

It also is located at the intersection of major north-south and east-west highways, is served by three transcontinental and two local railways, and is a deepwater port handling millions of tons of cargo annually.

The urban population to be served by the Folsom South Canal is centered in the Stockton area with a population of 150,000, of whom 89,500 are in the incorporated city. I am sure that it is unnecessary to emphasize the fact that, in common with most California cities, Stockton is expanding rapidly.

The normal growth of Stockton is threatened by the lack of an adequate supply of water. Practically all of the municipal and industrial water is pumped from wells supplied by an underground pool maintained by inflow from the area to be served by the Folsom South Canal.

The overdraft on this area has reduced the inflow to the Stockton pool, and the concentrated pumping under the densely populated city area has aggravated the problem to a critical point.

The southwest portion of the city includes the deepwater port of Stockton, and a large industrial area, which is now supplied by the California Water Service Co., with high quality water from wells far



to the east. It is also the location of numerous wells that have been abandoned as the quality of the water has deteriorated.

The Folsom Reservoir, which became operative in 1955, will supply water to the Folsom South unit. If the canal had been built concurrently with the Folsom Dam, the service area of the Folsom South unit would by now have benefited from eight operational irrigation seasons.

However, although the flood control and power functions of the project have been operative, the conservation water earmarked for the Folsom South service area has continued to run down the American River, and for the most part has been wasted in the Pacific Ocean.

The need for importing additional water for the Stockton area has been recognized at least as far back as 1906, when it was proposed to supplement the flow of the Calaveras River by importation from both the Mokelumne and Stanislaus Rivers.

In 1948, when the construction of Folsom Dam was assured, both the city and the California Water Service Co., which distributes water in Stockton, vigorously prosecuted action to secure the right to water from this source.

Attached is additional information on the Stockton water situation. Included are references which indicate the effort that has been expended, not only by the city of Stockton, but also by private interests and State and Federal agencies, to define this problem and seek its solution.

The city of Stockton has supported many of these studies financially, either solely or proportionately in cooperative ventures. It also has supplied and is continuing to supply pertinent basic data such as monthly records of ground water elevations and periodic analyses of water quality.

The city of Stockton gets all of its water from wells. There is a serious and increasing overdraft on the underground supply. Additional water must be imported. The Folsom South Canal is the most logical source from which an additional supply can be secured.

I am sure that you will appreciate our feeling of urgency in regard to securing the authorization of this project.

With your permission, Mr. Chairman, I would like to have the full statement of the city of Stockton presented and made a part of the record, along with a resolution of the Greater Stockton Chamber of Commerce.

Senator Moss. That may be done.

This is a very full and excellent statement, and it will be part of the record, and the chamber of commerce resolution also will be part of the record.

Thank you, Mayor Huckins.

(The statement referred to follows:)

PREPARED STATEMENT OF ROGER M. HUCKINS, MAYOR, CITY OF STOCKTON, CALIF.

Mr. Chairman and members of the committee, my name is Roger M. Huckins and I am mayor of the city of Stockton, Calif., which I represent at this hearing.

Representatives of the city of Stockton have been privileged to appear before your honorable committee from time to time urging the prompt authorization and construction of the Folsom south unit of the Central Valley project.

In order to have an adequate water supply for Folsom South Canal, the original project has since been enlarged to become the Auburn Dam-Folsom



South Canal unit of the Central Valley project for which we now respectfully urge favorable action by this committee.

The committee, I am sure, is familiar with the areawide consequences of the overdraft on the underground water supply in the service area of the Folsom South Canal, but may not be as familiar with the specific effect of this overdraft in the Stockton urban area.

The geographical situation of the city is particularly fortunate because of its tributary agricultural area which includes some of the most highly developed land to be served by the Folsom South Canal and also the rich delta islands to the west. It also is located at the intersection of major north-south and east-west highways, is served by three transcontinental and two local railways, and is a deepwater port handling millions of tons of cargo annually.

The urban population to be served by the Folsom South Canal is centered in the Stockton area with a population of 150,000 of whom 89,500 are in the incorporated city. I am sure that it is unnecessary to emphasize the fact that, in common with most California cities, Stockton is expanding rapidly.

The normal growth of Stockton is threatened by the lack of an adequate supply of water. Practically all of the municipal and industrial water is pumped from wells supplied by an underground pool maintained by inflow from the area to be served by the Folsom South Canal. The overdraft on this area has reduced the inflow to the Stockton pool and the concentrated pumping under the densely populated city area has aggravated the problem to a critical point.

Underlying the Stockton fresh water underground pumping pool and rising almost to the surface to the west toward the delta is a body of water of such high salt content that the quality is too poor for agricultural, municipal, and most industrial use.

As the fresh water in the pool is removed by overpumping, there is a tendency toward an eastward and upward migration of poor quality water to replace it. The situation has now reached the point where little, if any, good water can be pumped southwest of a line through the civic center. This southwest portion of the city includes the deepwater Port of Stockton and a large industrial area which is now supplied by the California Water Service Co. with high quality water from wells far to the east. It is also the location of numerous wells that have been abandoned as the quality of the water deteriorated.

The Folsom Reservoir which will supply water to the Folsom South unit became operative in 1955. If the canal had been built concurrently with the Folsom Dam, the service area of the Folsom South unit would by now have benefited from eight operational irrigation seasons. However, although the flood control and power functions of the project have been operative, the conservation water earmarked for the Folsom South service area has continued to run down the American River and for the most part has been wasted in the Pacific Ocean.

The need for importing additional water for the Stockton area has been recognized at least as far back as 1906 when it was proposed to supplement the flow of the Calaveras River by importations from both the Mokelumne and Stanislaus Rivers.

In 1948 when the construction of Folsom Dam was assured, both the city and the California Water Service Co. which distributes water in Stockton, vigorously prosecuted action to secure the right to water from this source. Finally 58,700 acre-feet annually from the Folsom South Canal was allocated to the Stockton area.

Among the early official actions by the city was Stockton City Council Resolution No. 19470, dated April 11, 1955, requesting the U.S. Bureau of Reclamation to investigate the extension of the Folsom South Canal into San Joaquin County and to include capacity to supply the urban and irrigation requirements.

Attached is additional information on the Stockton water situation. Included are references which indicate the effort that has been expended, not only by the city of Stockton, but also by private interests and State and Federal agencies, to define this problem and seek its solution.

The city of Stockton has supported many of these studies financially, either solely or proportionately in cooperative ventures. It also has supplied and is continuing to supply pertinent basic data such as monthly records of ground water elevations and periodic analyses of water quality.

The most recent study of the water requirements of San Joaquin County has been prepared by Kennedy Engineers and this report confirms the conclusion that prompt construction of the Folsom South Canal is essential to maintain the present and expanding economy of this county, including the city of Stockton.



The city of Stockton gets all of its water from wells. There is a serious and increasing overdraft on the underground supply. Additional water must be imported. The Folsom South Canal is the most logical source from which an additional supply can be secured.

I am sure that you will appreciate our feeling of urgency in regard to securing the authorization of this project.

[Attachment]

#### STOCKTON WATER SITUATION

The Stockton water situation is a normal one caused by overdraft on a limited pool of underground water. It is complicated by the intrusion of brine which tends to replace the extracted fresh water. Since reduced use of water is out of the question in a growing city, the situation can only be improved by importing water.

The availability and feasibility of alternative sources of imported water, either for direct application or for supplementing the pool with irrigation seepage, vary from time to time and this outline is limited to some of those now under consideration.

#### PRESENT WATER SUPPLY

##### *Formation of the pumping pool*

Stockton is situated on tidewater at the junction of the Calaveras and San Joaquin Rivers. Under it is a basin of relatively unconfined ground water extending from the Mokelumne River southerly to the Stanislaus River. The basin is fed by streams from the mountains to the east and is bounded on the west by the delta of the San Joaquin and Sacramento Rivers. The delta deposits are characteristically finer grained than those to the east and may contain more than 85 percent of clay. These fine deposits restrict the underground flow of water to the west and form the dam behind which is collected the pool of underground water upon which Stockton is dependent for its water supply. They also retard the flow of poor quality delta water into the fresh water pool.

##### *Effect of overdraft*

Practically all of the municipal and industrial water supply of the city of Stockton is pumped from wells. Water service was first established in Stockton in 1859 by P. E. Connor. The original waterworks plant was located on Hunter Street between Main and Market Streets. This plant obtained its supply of water from artesian wells in that vicinity. This area is some 10 feet above sea level and water at surface elevation would tend to flow westerly toward the delta.

Concentrated pumping in excess of replenishment from underground water inflow, tends to create a cone-shaped depression of the water level surrounding the well, or wells. As the cone of depression gets deeper, more water tends to flow in from all directions.

Overpumping under the densely populated Stockton area has resulted in a typical cone of depression plotted by the State in the fall of 1952 at 40 feet below sea level and in the fall of 1962 at 70 feet below sea level, a drop of 30 feet in 10 years.

##### *Water quality*

Stockton lies over and straddles the dividing line between two bodies of underground water of different character, one good and one bad. This dividing line is roughly the boundary between the fine grained mud forming the delta of the San Joaquin and Sacramento Rivers which holds the poor quality water and the coarser, sandy clay and gravel deposited against it by the relatively steep and rapid Calaveras River which brings the good water down from the mountains to the east.

The bad quality water is a remnant marine brine from past ages. It underlies the fresh water pumping pool and rises nearly to the surface in the delta just west of Stockton.

The contact between the mud of the Delta and the sandy clay to the east is sometimes referred to as a "barrier." There is no evidence of any geologic structure which obstructs horizontal movement of ground water across this contact, but mud does not drain freely so there is in effect a restricted movement of salt water easterly across the contact in spite of the hydraulic gradient resulting from the lower fresh water level caused by overpumping under Stockton.



The general direction of the line of demarcation between poor water and good water is northwesterly and southeasterly, roughly parallel to the present course of the San Joaquin River and is now some one and a half miles to the east of it. Due to interfingering at depth the contact is an irregular broad band, not a definite vertical line. In recognition of this situation, the State department of water resources has recommended that no wells be drilled within one-half mile either side of the approximate centerline of the barrier.

The effect of overpumping is to increase the hydraulic gradient from the west. Also, as the overlying fresh water is removed, there is a tendency for it to be replaced by rising brine from underneath. While the encroachment of contamination is slow, by now there is very little good underground water west of the civic center.

Originally, the Calaveras River was the main source of underground water in the Stockton area.

This source of supply has been intercepted and materially reduced by pumping some 100,000 acre-feet annually for irrigation upstream in the area east of Stockton.

Fortunately for Stockton the supply of underground water from the Calaveras River has been supplemented by surface diversions for irrigation from both the Mokelumne River to the north and from the Stanislaus River to the south. These sources can be expected to diminish as urban use of land replaces agricultural use and must eventually be replaced by a permanent source of supply.

For many years the increasing overdraft has indicated that pumping must be restricted and as long ago as 1955 it was estimated that pumping in the Stockton area should be limited to 15 million gallons per day which is equivalent to 16,800 acre-feet a year. This is an arbitrary figure, but probably acceptable and certainly sufficiently below the present consumption as to point up the need for additional imported water.

#### FUTURE WATER SUPPLY

Given an adequate supply of good quality water at a reasonable depth, pumping from wells is satisfactory and inexpensive. Most cities, including Stockton, start this way and develop and maintain the well field as long as possible.

#### *Historical indifference*

Going back at least to 1906 there is a long history of plans to secure an adequate water supply for Stockton and at the same time to protect the city from floods. It is easy to criticize the lack of foresight as we see it now, but as late as 1924 no shortage was evident and in a report on the proposed Hogan Dam, City Manager Ashburner stated, "The surplus water insures for all times a water supply for the city of Stockton, but will not be needed for several years and can be used in the interim for irrigation purposes, thereby reducing the cost of flood protection."

The foregoing statement was contained in the literature used to sell the program to the voters in 1924. After voter approval and issuance of the bonds and during the construction of the dam, rock formations in the area caused increases in cost which aborted the purposes of the voters. The dam, therefore, was not built to its designed height which would have provided both flood protection and water conservation. The dam has served as a flood protection measure only during the intervening 36 years. The city was prevented from the development of any water rights in this watershed.

The lack of any feeling of urgency is also illustrated by the failure of negotiations to purchase water from the East Bay Municipal Utility District aqueduct in 1929. This top quality water, piped to the edge of town, cost more than pumped water of which there appeared to be an adequate supply.

#### *Interim action*

Nearly 20 years passed before the situation became sufficiently acute for any action to be taken. In 1948 the Stockton and East San Joaquin Water Conservation District was formed to impound water behind the city-owned Hogan Dam and to release it during the irrigation season. The average seasonal storage has been in the order of 30,000 acre-feet. To some extent it has reduced the overdraft which would otherwise have resulted. To what extent the availability of additional water has increased the agricultural usage is undetermined and the benefit to the city is equally difficult to evaluate.



The district is financed entirely by taxes of which some 70 percent come from the urban area. This area is primarily served by the California Water Service Co. and the district taxes are in effect a surcharge on the cost of water to the taxpayers who are also customers of the water company.

Beginning in 1964 an additional 40,000 acre-feet annually is expected from the new Hogan Dam.

At the request of the district, legislation has been enacted which broadens the powers of the district and provides means for supplementing the tax structure by rates and charges for water.

The district is proceeding to set equitable rules to collect these charges to provide income in addition to that collected from taxes.

It is anticipated that payment will be made to the Federal Bureau of Reclamation for water or storage space behind the dam, but the amount to be provided if not yet known; neither has the method of assessing equitable rates and charges been determined.

The additional water from the new Hogan project will somewhat reduce the overdraft, but it is not expected to eliminate it.

#### *Construction projects*

The city's Hogan Dam and the Federal new Hogan project both deliver surface water to the district. This water in part contributes to the underground water throughout the district. The city covers a small acreage at the lower end of the district and receives no more than a proportionately small share of the benefit.

Stone & Webster in 1955 recommended a more direct approach to the Stockton problem. This consisted of drilling wells in a noncritical area several miles from the city and piping the water directly into the city system. It was proposed that the well field be located in an area of high ground water level some 10 miles southeast of Stockton.

In 1960 the California Water Service Co., acting on this same general principle, installed a large pipeline to a series of wells north of the Calaveras River and some 4 miles from the business section of the city. Due to increasing population this well field is losing its status as a noncritical area, but the wells and the big transmission line materially add to the flexibility of the entire system.

These three projects, old Hogan, new Hogan, and California Water's pipeline, are the only major attempts to reduce the Stockton overdraft that have reached the construction stage.

This is not the place to review the numerous past attempts of the city to secure a firm supply of imported water, but at the moment, the following projects should be outlined:

1. *Folsom South Canal*.—Originally this project was designed to bring water from Nimbus Dam on the American River below Folsom to the southern boundary of Sacramento County at Dry Creek, with provision for extension to Lone Tree Creek in San Joaquin County.

Apparently there was little demand for imported surface water in San Joaquin County prior to the time of the San Joaquin County investigation which verified the need for additional water. Since then the city and all agencies in the county have actively promoted the congressional authorization of the project.

Subsequently the Bureau of Reclamation proposed the east side project which is in effect an extension of Folsom South Canal to Kern County and more recently the Department of the Interior has come up with the Pacific Southwest States water plan in which the position of the east side project is obscure.

In its basic form, the Folsom South Canal is a surface irrigation project along the east side of the valley at about the elevation of Lockeford and Linden. The irrigation seepage is expected to stabilize or raise the water table, and thus to avoid or at least postpone, the need for a supplemental surface supply for the city.

When a surface supply is required, it will be available canalside near at Linden at a tentative cost to the city of \$14 an acre-foot. To this will have to be added the cost of transportation and treatment. The tentative cost of canalside irrigation water is set at \$2.75 an acre-foot in the area north of Lone Tree Creek. The canal, whatever its final form, will be integrated with the Federal Central Valley project. This canal will promote the development of San Joaquin County east of the delta and there appears to be no acceptable substitute.

2. *Delta-Calaveras River lift*.—This is one of several similar proposals to pump water easterly from the delta to provide surface irrigation to a limited area. It would be built by the Stockton and East San Joaquin Water Conservation District to lift water by stages to the vicinity of Jack Tone Road. This



would be an interim measure pending construction of the Folsom South Canal, becoming permanent only if the canal project were abandoned.

Construction of this project has periodically been seriously considered by the district. It is the only project in which the district controls the construction schedule.

Both the Folsom South Canal and the delta lift projects and, for that matter, also the new Hogan project are primarily surface irrigation projects with indefinite benefits to the Stockton pumping pool resulting from irrigation seepage and reducing pumping. As water becomes increasingly expensive, this seepage is being reduced by lined canals, piped distribution systems, and increased irrigation efficiency. Even now, the South San Joaquin Irrigation District is investing heavily in a piped distribution system.

There are also sources of supplemental water available to the city which are independent of irrigation.

3. *Local surface sources.*—Although treatment would be expensive, municipal water can, at any time, be pumped from local surface sources. To insure a right to such water under State law, Senator Short, in 1961, secured legislation adding article 6 to chapter 7, part 2, division 2 of the water code. This article provides for pumping water from the delta in amounts up to the quantity of sewer discharge of a quality acceptable to the Pollution Control Board. This is a valuable right which increases as the city grows and should be protected against prescription which might be claimed if the right were not exercised within 5 years.

4. *Peripheral canal.*—The California water project is a potential source of direct municipal water supply.

Some of the suggested alternates, such as the peripheral canal, would bring Feather River water close to Stockton, and probably at a reasonable cost.

5. *East Bay Municipal Utility District.*—When the East Bay Municipal Utility District built Pardee Dam, and piped the water past Stockton on the way to Oakland, water was offered to the city, but at a price that was considered too high as related to the cost of pumped water at that time.

In 1958, the subject was reopened, but East Bay was approaching system capacity and not in a position to add any demand. In fact it had already put a time limit on the naval annex contract. It did however offer assistance in an emergency.

The construction of Camanche Dam will produce an excess interim supply from Pardee Dam for a number of years and this may modify the position previously taken by East Bay Municipal Utility District during a period of impending shortage.

Water from Pardee Dam is of excellent quality and is available at adequate gravity pressure to feed directly into the local distribution system. This would provide an immediate solution to the existing problem of lack of overhead storage sufficient to protect the city during a protracted general power failure.

It is evident that Stockton cannot rely indefinitely on a water supply pumped from its diminishing underground pool. Overdraft must be halted and the water table raised to somewhere near its original level.

Areas to the north and to the south of the Stockton and East San Joaquin Water Conservation District contribute substantially to the underground inflow, particularly in the Stockton area. A decrease is indicated in the future inflow from these areas.

Any increase in the underground inflow to the Stockton pool can only be expected from percolation and irrigation seepage resulting from additional water applied by the district.

It is too early to evaluate the effect of additional water from the new Hogan project. Stockton will receive some benefit, but it provides no excuse for relaxing the effort to secure an adequate, permanent supply of water for the city.

Mr. LEHMAN. I have here, now, the mayor of the city of Lodi, who would like to present a short statement.

Senator Moss. Very glad to have you, sir.

#### STATEMENT OF BOZANT KATZAKIAN, MAYOR, CITY OF LODI, CALIF.

Mr. KATZAKIAN. Mr. Chairman and members of the committee, I have a resolution from the city of Lodi.

My name is Bozant Katzakian, representing the city council and the city's 26,000 citizens.



I have a resolution here from the city of Lodi, adopted unanimously in support of this Folsom project, and a resolution from the Lodi district chamber of commerce, endorsing it, and a statement here that I would like to present for the record, with just a few highlights, in the interest of saving time.

Senator Moss. Very good. That may be done, Mr. Katzakian.  
(The statement referred to follows:)

STATEMENT OF BOZANT KATZAKIAN, MAYOR, CITY OF LODI, CALIF.

Mr. Chairman and members of the subcommittee, I appear before you on behalf of the citizens of the city of Lodi all of whom have a very direct interest in the early development of the Auburn Dam-Folsom South Canal project.

The city of Lodi has a current population of approximately 26,000 persons and, though our growth rate is not as spectacular as some of the more publicized communities in California, it is expected to double in population within the next 20 years. I can make this estimate because it is well founded on a past growth rate which has been steady and consistent. However, for those familiar with the postwar growth pattern in the State of California, it must be accepted as a conservative estimate.

The past city councils of the city have concerned themselves with providing water for the city's residents. Past efforts to preserve rights to water in the Mokelumne River, which provides the north boundary of the city, met with little or no success. We watched this water be assigned to the metropolitan areas which faced a still more urgent need. As the water from the Mokelumne River was assigned to others, we were told that we must look to the American River for our future needs. This, gentlemen, has been the object of our concerned efforts for the past 15 years.

With the development of the water in the American River and the construction of the Folsom South Canal, the American River water will be available to the citizens of Lodi. The availability of American River water to the agricultural lands surrounding the city will reduce pumping from our dwindling underground water supply and thereby extend the life of this resource for municipal use. As I appear before you today, the underground water table from which our citizens draw their water continues to drop. The engineering studies which have been conducted in the past forecasted the current situation. This information has been provided to you over the years, and I cannot add anything at this time which will make the future appear brighter.

On two previous occasions, the city council of our city has delegated its mayor to travel to Washington and appear before congressional committees holding hearings on the Auburn Dam-Folsom South Canal project. As you no doubt realize, it is not a common practice for a city of our size to authorize such long trips unless it is a matter of vital concern to the citizens of the community. The fact that mine is the third appearance before this subcommittee in Washington in as many years, indicates the urgency with which our citizens support early construction of this project. We are convinced of the need for water for future municipal requirements, and we are convinced of the immediate need of water for the agricultural lands which surround the city and upon which the economy of Lodi is largely dependent.

I respectfully ask your favorable action of the Auburn Dam-Folsom South Canal project at this time.

Mr. KATZAKIAN. All of our water is pumped from wells. Our water table has been dropping continuously over the period of years, and it is still continuing to drop, and our community is growing steadily at approximately 1,000 to 1,200 people per year. This project will give us a larger increase of water for our development and future growth.

Senator Moss. We appreciate your coming to testify and bringing us these resolutions.

Mr. LEHMAN. I might say, Mr. Chairman, that I am from the city of Lodi, own a farm near there, and Lodi is the home of the famous flame tokay grapes, producing about 90 percent of the flame tokay grapes of the United States.



Senator Moss. I knew that Lodi was a grape center. Now I know it is Lodi flame grapes.

Mr. LEHMAN. We have other great products also, Mr. Chairman.

Senator Moss. I see.

Mr. LEHMAN. At this time, Mr. Chairman, I would like to present Mr. Thomas Shephard, of the Stockton and East Jan Joaquin Water Conservation District.

Senator Moss. Mr. Shephard, will you come forward, please?

**STATEMENT OF THOMAS J. SHEPHARD, SECRETARY, STOCKTON AND EAST SAN JOAQUIN WATER CONSERVATION DISTRICT**

Mr. SHEPHARD. Mr. Chairman and members of the committee, my name is Thomas J. Shephard. I am one of the attorneys and the secretary of the Stockton and East San Joaquin Water Conservation District.

I have a prepared statement which I would like to file with you, and have included in this record of this committee hearing.

Senator Moss. It will be made a part of the record.

(The statement referred to follows:)

**PREPARED STATEMENT OF THOMAS J. SHEPHARD, REPRESENTING THE STOCKTON AND EAST SAN JOAQUIN WATER CONSERVATION DISTRICT**

Mr. Chairman and members of the subcommittee, my name is Thomas J. Shephard and I am appearing today as one of the attorneys and the secretary of the Stockton and East San Joaquin Water Conservation District. My appearance before you is pursuant to authority granted me by resolution of the board of directors of the Stockton and East San Joaquin Water Conservation District. A copy of that resolution, which also urges the early authorization and construction of the Auburn Dam-Folsom South Canal project, is attached hereto.

The district which I represent was organized in 1948. Our district includes an area of approximately 80,000 acres extending from the easterly boundary of San Joaquin County to the delta area, all within the central portion of the county. The land area of the district is largely devoted to agricultural uses including approximately 48,000 acres of irrigated farmland, but it also includes most of the city of Stockton and the urbanized area surrounding the city.

At the present time, the large agricultural area of the district is primarily dependent upon water pumped from the underground. While some surface irrigation water is available to the district from the limited supplies of the Calaveras River, which flows through the district, the present supply of surface water does not meet the present supplemental water requirements of the district. It is estimated by the staff of the district, based upon the Kennedy report previously presented to you, that the present average annual overdraft of ground water within the district is approximately 100,000 acre-feet. This overdraft is met in part by the mining of water within the district and in part from ground water inflow from areas adjacent to the district.

In order to meet the total supplemental water requirements of the district, the district looks forward to the early authorization and construction of the Auburn Dam-Folsom South Canal unit of the Central Valley project. The need for adequate supplies of supplemental water in order to continue the present economy of the district is made particularly apparent by the fact that in the 9-year period from 1952 to 1961, ground water levels in a large portion of the district were lowered as much as 30 feet while simultaneously the quality of ground water in the western portion of the district degenerated to a point at which it is unfit for industrial use.

Our district needs the additional water which will be made available by the Auburn Dam-Folsom South Canal unit for the preservation of the existing economy of the district. The agricultural area of the district is virtually fully developed at the present time and the additional water which will be made available by the proposed project will not be used for the expansion of agricultural production but rather for the preservation of existing agriculture. The crops produced



within our district consist primarily of the following: orchards, including walnuts, cherries, peaches, and other orchard crops; permanent pasture; alfalfa; tomatoes; vegetable crops; and field crops. By far the greatest portion of the agricultural acreage of the district is devoted to orchards.

In addition to the need of agricultural water for our district, the district has a need for water for urban purposes. Our district is primarily responsible for maintenance of a basic water supply for the Stockton metropolitan area which has a population in excess of 100,000. At the present time, the Stockton area is entirely dependent upon ground water for municipal and industrial purposes. As was mentioned above, both the quality and quantity of ground water which is available in the district and to the Stockton metropolitan area is deteriorating because of ground water overdraft. If the Stockton area is to continue its present urban economy and to anticipate a reasonable rate of growth in the future, it must have an additional supply of water. For this additional supply, we can look only to the Auburn Dam-Folsom South Canal unit for the Central Valley project in that all local water supplies available in the area are either committed for use elsewhere or are inadequate either in quantity or quality.

At the present time, our district, pursuant to newly adopted State legislation, is reorganizing as a district with replenishment powers. The newly organized district will be in a position to levy charges upon ground and surface water and thus to pay for the supplemental water the district needs.

For the above stated reasons, on behalf of the people of the Stockton and East San Joaquin Water Conservation District, I urge that you take appropriate action to move ahead in the authorization and construction of the Auburn Dam-Folsom South Canal unit of the Central Valley project. I wish to express my personal appreciation and the appreciation of those whom I represent for the opportunity to make this presentation to you.

Mr. SHEPARD. Our district is located in the central part of San Joaquin County. In fact, I was observing just a moment ago when Mr. Gianelli was showing you a map of the Folsom south service area, and particularly noting the purple area and the red area, showing the greatest decline in ground water levels, that that is basically our district. The purple areas and the red areas.

Our district includes 48,000 acres of irrigated lands, which are basically dependent upon pumping of underground water for water service. It is an area of small farms devoted primarily to the production of orchard crops and field vegetable crops. Principally the crops of the district are walnuts, peaches, and cherries.

In addition, the Stockton and East San Joaquin Water Conservation District includes a large urban area, basically most of the city of Stockton, with a population of 100,000 people.

Our district is not a water-distributing agency of urban water. However, it is the responsibility of our district to provide a basic water supply for this urban area. At the present time, just as in the agricultural area, our district, in meeting its responsibility, is faced with rapidly declining water levels, and also with deteriorating ground water quality, because of overdraft, particularly in the western portion of our district, where we observed in recent years the necessary abandonment of a substantial number of wells supplying industrial water, because of the deteriorating ground water quality, which is the result of overdraft and an intrusion of water underlying the delta area immediately to the west of our district, which contains salts and other minerals, making it unusable for even industrial purposes.

We do not have sufficient local water supplies within the district, and therefore we look toward the Folsom South Canal in particular as a part of the Auburn-Folsom South project to meet the need both for industrial and for agricultural water within our district.

Just recently, in the last session of the State legislature, we secured legislation granting additional powers to our district, so that we are



now in a position, both legally and financially, to contract for the supplemental water we need, and we await an available supply so that we may contract for it and meet the responsibility that we have both to our urban users and to our agricultural users.

Thank you, Mr. Chairman.

Senator Moss. Thank you. We appreciate that, Mr. Shephard.

Mr. LEHMAN. Mr. Chairman, here today also is the mayor of the city of Tracy, Mr. B. L. Brown.

The city of Tracy is not directly benefited from this project, but they feel so strongly that this project is needed in the San Joaquin County and this area that they have sent him here to represent them.

I would like to introduce him, if I may, Mr. Chairman.

Senator Moss. We are very glad to have you come here, Mayor, to express your interest and the interest of your people.

Mr. LEHMAN. At this time, Mr. Chairman, I have a couple of charts which I would like to present, or have presented to the committee. I think they graphically show why we are so concerned; why we are urging the early authorization of this project.

And I am going to ask Mr. Gianelli, water consultant of San Joaquin County, to explain these charts, so that you may see just exactly what is happening in Stockton and San Joaquin County.

Mr. GIANELLI. Mr. Chairman and members of the committee, I think this ground water elevation map, which was made for the spring of 1963, illustrates the problem that Mr. Lehman and Mr. Shephard referred to.

Essentially, this map represents the elevation of the surface of the ground water as the measurements were taken in the spring of 1963.

The area that Mr. Lehman and Mr. Shephard have been talking about is toward the lower portion of the map, and the area that has been colored orange represents an elevation of the surface of the ground water, which is 50 feet below sea level. And this I think depicts the problem.

The San Francisco Bay area is to the west, and the area of the Sacramento-San Joaquin Delta has certain bad quality waters that underlie the delta area. These bad quality waters have come in from the ocean, in part, and also have accumulated over the years.

And in the area of the city of Stockton, there is a very severe ground water depression, as you will note, here. It is particularly severe in this area.

This presents the problem that the bad quality water comes from the west into the wells which underlie the city of Stockton.

So in addition to the matter of overdraft, we have a problem of losing the wells that are located in the western portion of the city by virtue of the fact that the ground water level is being drawn down below the city, causing the bad quality of water to come in from the west, and losing the production of these wells.

The first map which I showed you shows the location of this so-called barrier, and essentially it comes around the western portion of the delta, or rather, the eastern portion of the delta, and the western portion of the city of Stockton.

This barrier is not a real barrier. It is where the sediment from the foothills has come down and been deposited and meets the sediments from the delta, that is, the organic material.



And we are very fearful that as the ground water cone, or as the cone of depression, continues beneath the city of Stockton, the gradient from the west will increase, and thereby possibly render the entire ground water basin unfit for further use.

Now, this is a very severe problem that we are very concerned about Senator Moss. Thank you very much.

What is the orange to the north, there?

Mr. GIANELLI. This is another area where the surface of the ground water elevation is 50 feet below sea level.

The other areas are different amounts, but these are the two critical areas, or the deepest areas within the Folsom south service area.

Senator Moss. I see. Thank you.

Mr. LEHMAN. That concludes the presentation of San Joaquin County, Mr. Chairman.

If I did not ask that my statement be entered into the record, I will do so at this time, along with the report of our engineers, and I wish to take this opportunity to thank the committee for your giving us the time here this morning to present our case.

Senator Moss. Thank you, Mr. Lehman. The statement has already been introduced.

We appreciate your coming to present this evidence to us, and bringing these other gentlemen to testify before the committee.

Mr. BRODY. Mr. Chairman, our next witness is a man who I think is well known to the members of this subcommittee. He is a Washington attorney, Mr. Timothy V. A. Dillon. He represents the Sacramento Utility District.

Senator Moss. We are very happy to have you here, Mr. Dillon.

#### **STATEMENT OF TIMOTHY V. A. DILLON, WASHINGTON, D.C., COUNSEL, SACRAMENTO MUNICIPAL UTILITY DISTRICT**

Mr. DILLON. As Mr. Brody mentioned, I represent the Sacramento Municipal Utility District, which provides electricity in California's capital city of Sacramento and its environs.

Our district strongly supports the legislation before this committee, and endorses the statements of the earlier witnesses, which emphasized how this great project will provide irrigation, municipal, and industrial water, to the San Joaquin and Sacramento areas, and in addition, provide tremendous recreational benefits to the people of the West and the Nation. I might, in this connection, cite the great recreational benefits which have resulted from the Folsom project.

These same forces of growth that make the water conservation and utilization aspects of the proposed Auburn-Folsom south unit so vital assure that the proposed power output of the project will be quickly committed by the consumers within the area of economic transmission.

By way of background I might point out that the Sacramento Municipal District started operation in 1947. At that time it had a power capacity of 77,000 kilowatts. Today the district has a population of 600,000 and serves an area of 650 square miles. In 1975, the estimated population of the area will be 1 million people. That is a fivefold increase since 1947. The power capacity in 1975 will be 1.8 million kilowatts. This represents a 23-fold increase in the demand for energy in the area.



In the face of these tremendous requirements you can see how essential advance planning is.

Just as the State of California has initiated a bold self-help water program estimated to cost \$1¾ billion, the Sacramento Municipal Utility District has undertaken a costly program to meet its responsibility to provide power in its service area. The district's project on the South Fork of the American River will have an installed capacity of 600,000 kilowatts, at a cost to the district of something in excess of \$2.2 million. The undertaking is being financed mainly by the sale of revenue bonds.

The Sacramento Municipal Water District believes that the initial 240,000 kilowatt capacity of this project is completely and fully justified, and will be sold as soon as the power is on the line. In fact, the district itself would be willing to commit right now to take every kilowatt of that power.

Secondly, they also believe that it is imperative that the basic facilities to increase the installed capacity to 400,000 kilowatts be provided at the time of initial construction of the project. The additional capacity will be needed no later than 1980, and it is ordinary prudence to put facilities in while the project is being built.

These multipurposes purposes have never, to my knowledge, been overbuilt; in fact some have been underbuilt. In many instances, particularly in the Pacific Northwest, provision has been made at the time of initial construction of large dams for the addition later of increased capacity.

Our district is convinced that the California market will completely absorb all the power that this project can produce by 1975.

For this reason the Sacramento Municipal Utility District urge that the authorization legislation include provision for installation initially the basic facilities to increase the installed capacity from 240,000 to 400,000 kilowatts.

That is all, sir.

Senator Moss. Thank you, Mr. Dillon.

I second your suggestion that we look ahead and build the projects to the ultimate use that we are going to make of them. So I appreciate that recommendation.

Are there any questions?

Thank you, sir.

(The prepared statement follows:)

PREPARED STATEMENT OF TIMOTHY V. A. DILLON, WASHINGTON, D.C., COUNSEL,  
SACRAMENTO MUNICIPAL UTILITY DISTRICT

The Sacramento Municipal Utility District is a public agency providing power to California's capital city and its surrounding area. Its service area comprises over 650 square miles embracing a present population of some 600,000. The peak demand the past 12 months has been 465,000 kilowatts. During that time 2 billion kilowatt-hours of energy has been consumed.

When the district began operation in 1947—only 17 years ago—the population was 215,000. At that time the demand and energy requirements were only 77,000 kilowatts and 387 million kilowatt-hours. Looking to the future, the State projects a population growth in the district to nearly 1 million by 1975. To meet this advance, the district must have available in that year about 1,800,000 kilowatts of capacity and 8 billion kilowatt-hours of energy. Advance planning to take care of this tremendous population and power growth is one of the dis-



trict's main problems. Of course, the problem is common to all utilities in California—indeed, throughout the Nation.

At the present time the district is the principal public agency customer for power from the Central Valley project. It has 290,000 kilowatts under long-term commitment. However, it has not relied on the Federal Government alone. The district is constructing its own hydroelectric project on the south fork of the American River which eventually will produce 600,000 kilowatts at a cost of \$212 million. To supplement this, additional power sources must be found within a few short years. These matters are mentioned to show the committee this district's immediate interest in the construction of Auburn Dam and powerplant which would be located a scant 15 to 20 miles from its service area.

Considering the proposed Auburn project from a broader point of view, the district feels the development would not only make available power needed by the district and others in northern California but will provide irrigation and municipal and industrial water in the Sacramento and San Joaquin County areas and beyond which are required to sustain the economy in this part of the State. Moreover, the recreation potential of the project is enormous. Based on the extensive use of Folsom Reservoir, located at Sacramento's back door, which we have observed and the growing use of the lakes created by our own hydroproject on the American River, we have no doubt that the Auburn Reservoir area will be used and enjoyed annually by thousands of persons.

The district is pleased that the proposed project has been enlarged so as to maximize this excellent water resource. It has been our observation that rarely are developments of this kind built large enough. As time goes on and the remaining sites for these huge multipurpose projects grow scarce, it becomes even more vital that they not be undersized. Certainly the water and power to be developed by Auburn can be fully utilized. And, the Interior report shows the project to be highly feasible, producing the highly favorable benefit-cost ratio of 3.71 to 1.

Since the district's experience lies primarily in the field of power, the committee may be interested in our specific observations relating to the proposed power development at Auburn. First, we have no doubt that the initial 240,000 kilowatt installation is fully justified and will be sold as soon as it is available. In fact, the district itself can assure that market. Similarly, the proposal for installation now of the basic facilities necessary to increase the installed capacity to 400,000 kilowatts at a later date—the report suggests about 1980—is very wise. This kind of advance planning has been followed successfully for years in the Northwest by both Federal and non-Federal agencies and is paying big dividends. We fully concur in the statement appearing at page 19 of the supplemental report of the Bureau of Reclamation dated March 22, 1963, which states as follows:

"The most beneficial use for hydropower in northern California is to meet the fluctuating high peak requirements of the powerload, leaving the relatively uniform baseload to steam electric plants."

It is our opinion that the California market will absorb this additional power about 1975. We estimate that the district itself will be in a position to utilize 250,000 kilowatts of this kind of peaking power by 1973 and the entire 400,000 by 1975.

Our second observation is this: According to a recent report of the National Power Survey of the Federal Power Commission, in 1950 in California 60 percent of the total generation was hydro. By 1960 this had dropped to 27 percent. The report goes on to predict that by 1975 hydro will constitute only 16 percent of the total energy produced in the State. This is important to your evaluation of the Auburn project because it indicates that smaller and smaller amounts of energy need to be associated with hydro capacity to make it usable in serving the loads of California. This then justifies the installation of plants with larger and larger capacity for peaking purposes. An example of this tendency is demonstrated by our own hydro project. As conceived only a few short years ago, we planned a total capacity of 230,000 kilowatts. We now plan to install 600,000 kilowatts. Although our storage has been increased somewhat, the basic reason for the enlargement is the change in the ratio between steam and hydro caused by the diminishing number of hydro sites and the tremendous load growth in the area. The district knows of no other hydro sites it can develop and so must make the most of the ones it has. We suggest the same policy for Federal installations.

Consequently, we have no doubt that the entire 400,000 kilowatts should be authorized and that it should and will be installed prior to 1980.



Our third observation is this: The projected power revenues appearing in the report are premised on the assumption that the present contract between the Bureau of Reclamation and the Pacific Gas & Electric Co. will continue through the entire payout period—50 years—without modification. This is the principal reason that the amount of dependable power assumed to be available from the Auburn project is 169,000 kilowatts rather than the 240,000 kilowatts installed and hence greatly reduces the Central Valley project power income which might otherwise have been predicted. In light of the changing situation with respect to hydro discussed above, we think it more reasonable to assume that more and more of the Central Valley project installed capacity will become dependable, either through modification of the present contract, if it continues, or by combining Central Valley project capacity with steam capacity installed by the Government or public agencies. For these reasons we feel that the estimates of net operating revenues from power, appearing in the repayment tables of the Bureau of Reclamation report, are too conservative. We have made some rough estimates of our own which indicate that if, for example, the dependable capacity of the Central Valley project were increased by 100,000 kilowatts, net revenues over the repayment period would grow by \$45 million. This assumes a continuation of the present rate schedule.

The Sacramento Municipal Utility District heartily endorses the Auburn-Folsom south unit of the Central Valley project as proposed by the Department of the Interior and urges the approval of S. 351 by this committee.

Mr. BRODY. I would next like to introduce, Mr. Chairman, Mr. John S. Harnett, executive assistant to the general manager of the East Bay Municipal Utility District.

Senator Moss. Mr. Harnett, glad to have you, sir.

#### STATEMENT OF J. S. HARNETT, EXECUTIVE ASSISTANT TO THE GENERAL MANAGER, EAST BAY MUNICIPAL UTILITY DISTRICT

Mr. HARNETT. Mr. Chairman, members of the committee, my name is John S. Harnett, executive assistant to the general manager, East Bay Municipal Utility District, Oakland, Calif.

I have a prepared statement, which I would request be included in the record, Mr. Chairman, and I would like to make a few remarks.

Senator Moss. That may be done. The statement will go in in full, and you may comment as you see fit.

(The statement referred to follows:)

#### STATEMENT OF J. S. HARNETT, EXECUTIVE ASSISTANT TO GENERAL MANAGER, EAST BAY MUNICIPAL UTILITY DISTRICT

Mr. Chairman and members of the committee, the East Bay Municipal Utility District of Oakland, Calif., has consistently advocated the Auburn-Folsom south unit of the Central Valley project since its inception, and again wishes to recommend its authorization.

The supplemental report now under consideration states that 74,000 acre-feet of water for municipal and industrial purposes could be made available for diversion to other local, delta, or bay areas on a nearly constant-flow basis.

The East Bay Municipal Utility District has a requirement for 225,000 acre-feet annually to supplement sources now available and being developed. This requirement for 225,000 acre-feet was derived as follows:

Based on the U.S. Department of Commerce Report of 1959 on Future Development of the San Francisco Bay Area, the population of the district's ultimate service area in Alameda and Contra Costa Counties will be 2,584,000 in the year 2020. Per capita water consumption within the district has practically doubled since 1940 and in 1960 was 156 gallons per day. It is expected that the per capita consumption of water will continue to rise and will eventually reach 200 gallons per day, or even more. Accepting the per capita consumption figure of 200 gallons per day, and applying it to the Department of Commerce figures on population, our net requirement is estimated at 517 million gallons per day in the year 2020, or about 580,000 acre-feet per year.



Against this total annual requirement of 580,000 acre-feet, the district expects to have available from its local and Mokelumne River sources 376,000 acre-feet, thus leaving an unfilled requirement of 204,000 acre-feet. To this it seems prudent to add an allowance of 10 percent for conveyance losses and other contingencies, to arrive at the estimated supplemental requirement of 225,000 acre-feet annually.

As indicated above, the district will not need the full supplemental requirement of 225,000 acre-feet until about 2020. Our studies also show that the 376,000 acre-feet available in the near future will be adequate for the next three decades. Thus by about 1990 it will be necessary for us to begin to supplement our supplies, building up to the eventual supplemental need of 225,000 acre-feet by 2020.

This may seem that our needs are far off in the future. Nevertheless, our experience on previous major expansions of our system has demonstrated that 25 to 30 years are required from inception to operation of undertakings of this magnitude. We are also aware of the time required to authorize a Federal project, appropriate funds, construct the project, and plan and build the additional transmission and distribution facilities that would be required. Consequently, we continue to seek a supplemental supply of 225,000 acre-feet.

We are obviously concerned that only about one-third of our supplemental requirement might be met through this project, and we are continuing our negotiations with the Bureau of Reclamation in the hope that by this project and others now in the planning stage, our full supplemental needs can be fulfilled.

We also recognize the needs of others and in particular the pressing need for additional water in San Joaquin County. Our studies of water supply conditions in northern San Joaquin County, through which flows the Mokelumne River, have shown that imported supplies will be required to supplement those locally available. The Auburn-Folsom unit will alleviate this situation materially. For this and the foregoing reasons, the East Bay Municipal Utility District recommends your favorable action.

Mr. HARNETT. The East Bay Municipal Utility District of Oakland, Calif., has consistently advocated the Auburn-Folsom south unit of the Central Valley project, since its very inception, and again wishes to recommend its authorization.

At the present time, the district is serving more than 1 million people in Contra Costa and Alameda Counties, including the cities of Oakland, Richmond, Berkeley, Alameda, and San Leandro.

Studies by our organization, which are based upon per capita consumption trends and Department of Commerce population projections, indicate that shortly after the turn of the century we will be required to serve more than 2½ million people.

The supplemental report now under consideration states that 74,000 acre-feet annually, to supplement sources now available and being made available for diversion to other local delta or bay areas on a nearly constant-flow basis.

East Bay Municipal Utility District has a requirement for 225,000 acre-feet annually, to supplement sources now available and being developed.

Although the district will not need the full requirement of 225,000 acre-feet until about the year 2020, our studies show that by about 1990 it will be necessary for us to begin to supplement our supplies.

It may seem that our needs are a long time off in the future. However, we are well aware of the time required to authorize a project, appropriate funds, construct the project, and particularly for us, Mr. Chairman, to plan and build the additional transmission and distribution facilities that would be required. Consequently, we continue to seek a supplemental supply of 225,000 acre-feet.

We are obviously concerned that only about one-third of our supplemental requirement might be met through this project, and we are



continuing our negotiations with the Bureau of Reclamation in the hope that by this project, and perhaps others now in the planning stage, our full supplemental needs can be eventually fulfilled. And we also recognize the needs of others, and in particular the pressing need for additional water in San Joaquin County.

Our studies of water supply conditions in northern San Joaquin County, through which flows the Mokelumne River, our primary source, shows that imported supplies will be required to supplement those locally available. And this has been well brought out by other witnesses this morning, too.

The Auburn-Folsom unit will alleviate this situation materially.

So for this reason, and the foregoing, applying to our district, we would again recommend your favorable action.

Thank you very much.

Senator Moss. Thank you, Mr. Harnett, for your testimony.

And again you are calling our attention to long-range planning, as we build this.

Mr. BRODY. Again our witness is from a county adjacent to Sacramento County, Mr. Winkler, district attorney for El Dorado County.

Senator Moss. Very glad to have you, Mr. Winkler.

**STATEMENT OF JACK R. WINKLER, DISTRICT ATTORNEY,  
EL DORADO, CALIF.**

Mr. WINKLER. Thank you, Mr. Chairman and members of the committee.

My name is Jack Winkler. I am district attorney for El Dorado County.

The people of our county have a vital interest in this project, as a great portion of the water which will be utilized in the project originates in our county.

Most of this water will be used in the valley outside of our county, but we are still very much in support of the project. We are very much interested in two features of the project, namely, the Folsom-Malby unit, which contemplates the construction of a county line reservoir.

This reservoir will provide a water source to the western portion of El Dorado County, which is now developing as part of the industrial and residential complex of the Greater Sacramento area.

We visualize in the next few years an added water source will be needed to meet the expanding economy in that area, and we believe that the county line reservoir is the only means by which that water can be provided for this area.

We are also very much interested in the recreation features to be incorporated in both reservoirs contemplated by this project.

We have learned from the experience with Folsom Reservoir that great crowds of people will flock to both reservoirs the moment they are completed. We have lived through this with Folsom Reservoir, and we have found when they came, we had no facilities to care for them. We looked around, and the county simply did not have the means to provide these basic facilities.

Since that time, we have developed in our county means for operating and maintaining recreational facilities, from Sly Park Reservoir,



from Lake Tahoe, but we simply do not have the resources to provide the basic facilities necessary.

We would be in a position to aid in their maintenance and operation, but we must look elsewhere, and we would look to the United States to provide the basic facilities needed to provide the recreational needs for the people who will be there.

These are the two features that El Dorado County is most interested in, features which promote our enthusiastic support of this project.

I have a prepared statement that I would like to submit to the committee. Attached to it are resolutions enthusiastically supporting this project from the county board of supervisors, the El Dorado County Water Agency, the El Dorado County Chamber of Commerce, the El Dorado County Irrigation District, and a statement by Harry J. Dunlop for the county water committee.

Thank you, Mr. Chairman.

Senator Moss. Thank you, Mr. Winkler.

Your statement will be made a part of the record in full as will the statement of Harry Dunlop for the El Dorado County Water Committee. The resolutions will also be included in the record.

(The statements referred to follow:)

STATEMENT OF JACK R. WINKLER, DISTRICT ATTORNEY, EL DORADO COUNTY, CALIF.

Mr. Chairman and members of the committee, my name is Jack R. Winkler. It has been my privilege to serve as district attorney for El Dorado County, in California, for the past 10 years. During that time, I have seen El Dorado County experience a population explosion not unlike the gold rush of 1849. Like our mining forefathers, we have concentrated much of our energies in developing the water resources necessary to supply the lifeblood to our expanding economy.

As development has occurred on the floor of the Central Valley of California, there has been increasing need for multipurpose water development on the major streams of the valley. Folsom Dam was constructed in 1955 to conserve waters of the American River. At the time of construction, we had very little expectation of utilizing directly any of this water within the county. Nevertheless, we were favorably disposed toward this development and strongly supported its construction. In the comparatively short time since its construction, conditions in western El Dorado County have changed so drastically that we presently anticipate development of a substantial area with water from Folsom Reservoir. At this time an area of some 10,000 acres is being changed from dry rangeland into a planned community called El Dorado Hills. This is but one of several land development programs in El Dorado County obtaining water from Folsom Reservoir.

While the major agricultural service area for water to be developed by the Auburn-Folsom south unit of the Central Valley project is located west and south of El Dorado County, on the floor of the valley, development of this additional water will result in direct benefits to our county and will materially assist in providing a solution to our ever-present and growing water problems in the western portion of the county. We cannot draw upon underground water supplies because we have none. The availability of a water supply to this area, as the Malby Reservoir would provide, will result in major and substantial development in the county.

If for no other reason, the basic benefits to El Dorado County from water conservation features of Auburn Dam would be ample reason for our enthusiastic support for this project. Increasingly, however, benefits from recreation potentials are significant. We have just been through the experience of attempting to assist in bringing order to recreational uses in the Folsom Lake area after construction of this project. The three affected counties—Placer, Sacramento, and El Dorado—have worked together in a tricounty planning commission and with State and Federal agencies. Our experience in this case, and in the case of furnishing recreation facilities at Sly Park, is such that we heartily endorse and support the changes now in effect in recreational planning on this proposed proj-



ect at Auburn, Sugar Pine, and County Line Reservoir. Upon completion of construction at Folsom and Sly Park, people came to use and enjoy the area. However, no preparations had been made for these people and there was a period of confusion while local, State, and Federal agencies worked to resolve this problem. We are much encouraged by the advanced planning for recreation on features of this unit of the Central Valley project.

As you know, present programing of Federal expenditures allocate considerable sums of money for minimum basic recreational facilities at Auburn, Sugar Pine, and County Line Reservoir. With these minimum expenditures, in which we concur, it will be possible to have basic preparations made on completion of construction to take care of the hundreds—and yes, even thousands—of people who are sure to visit and enjoy these projects. We trust that this will go a long way to eliminate the confusion which we witnessed and lived through on completion of construction at Folsom and Sly Park. El Dorado County is increasing its ability to administer a recreation program. The county now has a recreation commission which administers an annual budget of about \$100,000, which to a "mountain county" such as ours is an appreciable amount.

I should like to dwell for a few moments on one other point and that is the extent of water development activity in El Dorado County. As I mentioned earlier, construction at Folsom and Sly Park Dams of the American River division of the Central Valley project was completed in 1955. This provided a substantial amount of supplemental water supply to the county, and has been a major factor in the tremendous growth which we have experienced over the past 8 years. But this has not been the only water development program in the county. The Sacramento Municipal Utility District has its upper American River project—an \$85 to \$100 million hydroelectric development—under construction. The Georgetown Divide Public Utility District has just completed construction of the Stumpy Meadow Reservoir under the Public Law 984 (Small Reclamations Act of 1956) loan program.

The Legislature of the State of California created the El Dorado County Water Agency in 1959, which agency is specifically charged with the responsibility of water development at the county level. The agency has recently contracted with the Bureau of Reclamation for a supply of water from Folsom Reservoir to potentially serve a gross area of some 50,000 acres in western El Dorado County adjacent to this reservoir. The agency has also engaged in intensive studies on a matching fund basis to determine the remaining feasible projects to serve El Dorado County. In undertaking this study program, the agency has spent or obligated sums in excess of \$160,000 over the next 3 to 4 years. El Dorado County has demonstrated, by contracts and further studies, its intent to not just talk about water problems but to do something about them. We trust that our actions speak louder than our words.

We have had a realistic and most heartening relationship between local, State, and Federal governmental agencies in our county, as exemplified by Folsom, Sly Park, and Stumpy Meadows developments. We think this is a proper area for cooperative effort and we strongly endorsed the program. We are aware of some of the difficult and complex problems which confront you and demand resolution on the national and international scenes. We trust, however, that you will not lose sight of the problems—which are opportunities in disguise—which confront us on a State and local level. You have in the past demonstrated your keen insight into these problems. There is tremendous local support in our county for this proposed project. For the record, may I present you with copies of resolutions from local groups supporting our request for early authorization of construction. On behalf of El Dorado County, I would strongly urge and recommend that you give favorable consideration during this session of the Congress to authorization of construction by the U.S. Bureau of Reclamation of the Auburn-Folsom south unit, including the Foresthill Divide and Folsom-Malby features, as part of the Central Valley project in California. Thank you.

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PREPARED STATEMENT OF HARRY J. DUNLOP, SECRETARY, EL DORADO COUNTY WATER COMMITTEE

Mr. Chairman and members of the committee, my name is Harry Dunlop. I am secretary of the El Dorado County Water Committee and secretary-manager of the El Dorado Irrigation District. While El Dorado County is not



in the area of major use of water from this project, a major portion of the water for the project originates as rain and snow in our county. We have more than a passing interest in this development.

Central El Dorado County is presently the beneficiary of a reclamation development—the Sly Park unit of Central Valley project. We are familiar with the change that takes place in a community when a water supply is made available. Growth results—we are presently living in the midst of this growth. But we have not always had this blessing. A short 8 years ago we lived under entirely different conditions. The water shortage in central El Dorado County was so severe that it was necessary for the El Dorado Irrigation District to deny requests for water service, even for single-family residential use. With completion of Sly Park unit of the Central Valley project, this condition does not now prevail in central El Dorado County; but it does prevail in western El Dorado County—a short 15 miles west of the city of Placerville. In the dry summer months there is no water in any quantity in this area. The proposed works to serve the Folsom-Malby area reported on by the Bureau of Reclamation in their supplemental report will provide water service to a gross area of some 6,000 acres in western El Dorado County.

But why is it important that this feature be included in the Auburn-Folsom south unit? May I cite an existing development as one example. There is a veneer plant located along the railroad through this area. This particular location for the plant was chosen because of its strategic position with respect to raw materials, labor market, and transportation facilities, beside other considerations. The plant employs about 130 people who live in Sacramento, Amador, and El Dorado Counties. The plant represents a capital investment of some three-quarters of a million dollars. However, their experience in search for water has been most discouraging. They drilled two wells—two holes in the ground—one 115 feet deep and the other 154 feet deep and have a total supply of some 20 gallons per hour. Only by the most conservative use of water, by enforcing the strictest of conservation measures does the water supply permit operation of the plant in the dry summer months. This area is not blessed with an underground water supply as are other areas in the great Central Valley of California. If this plant is to survive, it must have an adequate water supply.

In the last 12 years an industrial complex has developed in eastern Sacramento County which has played an important part in the Nation's defense and space programs. Aerojet General Corp. and Douglas Aircraft Co. have substantial facilities in this area. Western El Dorado County is within 5 miles of this complex, but has had only minor development partly because of the complete absence of an adequate water supply.

However, this is not the only need involved. People are coming into El Dorado County in great numbers. Much as some "oldtimers" might like to put a stop to this virtual invasion, we cannot do so. About a century ago the Indians attempted to stop the westward migration; they were unsuccessful in spite of their bows and arrows. The population of El Dorado County has almost doubled in 10 years (16,207, 1950 census, to 29,390, 1960 census). While much of this increase has been concentrated in the Lake Tahoe area, western El Dorado County is just now beginning to feel the impact of population growth resulting from development in the Greater Sacramento area. Some studies and projections show El Dorado County population doubling again by 1970 with a major portion of this growth occurring in western El Dorado County. To serve these people there must be water. It will take several years, perhaps 5 to 10 years, to build this project and place it in operation. If construction were to start immediately it would not be too soon.

Local special districts as well as the county have been active over the years in attempting to solve our water problems. The El Dorado Irrigation District for some 35 years exhausted every avenue of self-help and at the point of despair turned to the Bureau of Reclamation for assistance. Studies were conducted and with the very capable and able assistance of Senator Clair Engle, then Congressman representing our area, the Sly Park unit of Central Valley project was authorized and built. With authorization of this project there was pioneered a new concept in water development which has since been applied to other more recently authorized projects. This new concept suggested that benefits should accrue to areas located upstream from a multipurpose project as well as to areas downstream. We believe this concept is both reasonable and equitable. It appears to us that nature has decreed the inter-



dependence of these two areas for their would be no water for downstream users if it did not initially fall in upstream areas.

I would be remiss in discharging my responsibilities if I failed to mention the continuing effort being made by the Georgetown Divide Public Utility District, Southside County Water District, Pollock Pines-Fresh Pond Public Utility District, El Dorado Hills County Water District as well as the private water companies, each in their attempt to solve water problems in their respective areas in El Dorado County. Knowing the difficulties associated with a water development project in our county, they join me in urging that you give every consideration to early authorization of construction of this unit of the Central Valley project.

We are not unmindful of the magnitude and complexity of problems which you face as you determine from time to time which of the various proposed projects should be authorized for construction. We trust that we have demonstrated the dynamic challenge and the unprecedented opportunities confronting us which are limited essentially by our lack of an adequate water supply. We further trust that you will assist us in this businesslike approach to the solution of our problem. May I urge that you give favorable consideration to early authorization of construction by the U.S. Bureau of Reclamation of the Auburn-Folsom south unit, including the Foresthill Divide and Folsom-Malby area features as a part of the Central Valley project in California. Thank you.

Senator Moss. Your county is the county that primarily supplies the water, and will not draw on the reservoir for use, consumptive use, of the water. Is that right?

Mr. WINKLER. Not on the Auburn Reservoir itself, to any great extent, Mr. Chairman. We do expect that we will draw on the County Line Reservoir as a means of supplying water to western El Dorado County.

Senator Moss. I see. Thank you.

Mr. BRODY. Our next witness, Mr. Chairman, is another prominent consulting engineer, from Visalia, Calif. He is also director of the National Reclamation Association.

Mr. James F. Sorensen.

Senator Moss. Mr. Sorensen, we are glad to have you with us, sir. You may proceed.

#### STATEMENT OF JAMES F. SORESENSEN, ON BEHALF OF NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT

Mr. SORESENSEN. Thank you, Mr. Chairman.

First, I wonder if I might submit a statement and a resolution on behalf of North San Joaquin Water Conservation District at Lodi, and I will further ask that it be included with those from San Joaquin County.

Senator Moss. That certainly may be done, Mr. Sorensen.

(The statement referred to follows:)

PREPARED STATEMENT OF JAMES F. SORESENSEN, CONSULTING ENGINEER, VISALIA, CALIF., NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT

North San Joaquin Water Conservation District, comprising about 52,000 acres, is located in northern San Joaquin County, Calif. The city of Lodi, with a rapidly expanding population, is situated in the westerly part of the district.

This area produces all of the Tokay grapes grown in the United States and is famous for the top-quality grapes, wines, fruits, nuts, and other permanent crops raised. Tomatoes and irrigated pasture also represent a substantial part of the crop pattern.

The Bureau of Reclamation report shows that most of the district is class 1 land and crop surveys show that the district lands are nearly 100 percent fully developed, as they have been for many years.



Water levels in the district have been dropping for a good many years and the North San Joaquin Water Conservation District was formed in 1954 to develop means to obtain additional water.

Efforts were made to develop local supplies, but available water is not sufficient. The district plans to contract for Folsom South water as soon as possible. One pipeline has already been constructed which will be used to take water from the Central Valley project. During the period prior to availability of Folsom South water, temporary local surplus supplies are being distributed. Another such unit is scheduled for construction soon.

The district must acquire additional permanent water supplies and it look to the Auburn-Folsom South unit for such supplies.

Being located near the Sacramento-San Joaquin Delta, ground water is in danger of becoming unusable due to the encroachment of poor quality waters occurring when the ground water levels drop below sea level. Irreparable damage to the ground water reservoir can result if saline waters ever penetrate the aquifers.

A supplemental supply from the Central Valley project will bring about a stabilized water condition. Conjunctive use of Folsom South surface supplies and ground water will permit landowners in the district to maintain their long existing economy in a healthy condition. Lack of such a supply will lead to a situation where many landowners might be forced to abandon investments and results of many years labor.

North San Joaquin Water Conservation District supports immediate authorization and construction of the Auburn-Folsom south unit of the Central Valley project.

Mr. SORENSEN. Then, if I might summarize the north San Joaquin position briefly, the resolution indicates that the district is in strong support of the Auburn-Folsom south unit, as an addition to the Central Valley project of California.

You will note that the district includes over 52,000 acres, and that it does include the city of Lodi, so that the district would be taking a water supply for domestic, municipal, industrial, and agricultural use.

The district is practically fully developed. It is comprised in the great majority of class 1 lands. With an established economy, there is a need for a water supply to stabilize the ground water and stabilize this economy, to try to prevent any loss due to an uneconomical water operation.

The district is ready to take water at the present time. They have already undertaken the construction of some facilities, which will be usable with the Folsom South facility.

The district intends to continue some construction of facilities which can be used. The temporary use of these facilities is from a supply which in the ultimate will not be available to the local area.

Again I would sum up by saying that the district strongly asks the support and immediate authorization of the unit.

Thank you.

Senator Moss. Thank you, Mr. Sorensen. That is very fine.

Mr. SORENSEN. Mr. Chairman, then if I could make a statement on behalf of the Central Valley East Side Project Association—

Senator Moss. All right. Will you do that, sir?

#### STATEMENT OF JAMES F. SORENSEN, SECRETARY, CENTRAL VALLEY EAST SIDE PROJECT ASSOCIATION

Mr. SORENSEN. My name is James F. Sorensen. I am a consulting engineer in Visalia, and I appear as the secretary of the Central Valley East Side Project Association.



That association is in full support of the Auburn-Folsom south unit for two main reasons:

One, that it is certainly shown to be a feasible addition to the Central Valley project. It would meet local needs, and would be in a position to meet a present need for water in Sacramento and San Joaquin Counties.

Second, it would be a step in a program to ultimately provide water to the east side of the areas south of San Joaquin County.

I would note that these areas in the San Joaquin Valley south of San Joaquin County are presently in a state of overdrawn water supplies, and are in need of additional supplemental supplies.

Further, I would note that the enlargement costs which are contemplated for the Folsom South Canal would be charged against the Central Valley project as it is now constituted, with provision that ultimately, if the east side division were to be constructed, these charges would then be reallocated directly toward that division.

As a means of indicating support for this position of enlargement and actually allocating these costs, I would like to submit for the record a group of resolutions from the following agencies. These are all in support of the early authorization and construction of the Auburn-Folsom south unit of the Central Valley project as provided in S. 351:

- Ivanhoe Irrigation District
- Alta Irrigation District
- Delano-Earlimart Irrigation District
- Fresno Irrigation District
- Porterville Irrigation District
- Tulare Irrigation District
- Saucelito Irrigation District
- Stone Corral Irrigation District
- Lower Tule River Irrigation District
- Lindmore Irrigation District
- James Irrigation District
- Consolidated Irrigation District
- Kings County Water District
- Rag Gulch Water District
- Angiola Water District
- Raisin City Water District
- Le Grand-Athlone Water District
- Kings River Conservation District
- Liberty Farms Mutual Water Co.
- Liberty Canal Co.
- Burrell Ditch Co.
- Reed Ditch Co.
- Tulare County Board of Supervisors
- Madera County Board of Supervisors
- Kern County Water Agency.

And I would ask that these be added to the record, and further, that we be allowed to submit additional resolutions which are in transit at the present time.

Senator Moss. That may be done. All those resolutions will be included, and any resolutions that you can submit to the committee within the next 10 days will be part of the record.



(The prepared statement referred to follows:)

PREPARED STATEMENT OF JAMES F. SORENSEN, CONSULTING ENGINEER, SECRETARY,  
CENTRAL VALLEY EAST SIDE PROJECT ASSOCIATION

The Central Valley East Side Project Association supports authorization and construction of the Auburn-Folsom south unit of Central Valley project as provided for in S. 351.

The association supports Auburn-Folsom South on two fundamental points:

1. It is a feasible addition to Central Valley project which will deliver needed water to a substantial area of the Central Valley and provide other benefits; and

2. It, upon a showing of feasibility by the Secretary of the Interior, can, through Folsom South Canal enlargement, provide a step in the program to deliver water to the lands lying south of the lower end of the Folsom South service area.

The provisions calling for assignment of the enlargement costs to Central Valley project general accounts, pending allocation to the East Side division, have been endorsed by many of the present long-term Central Valley project contractors for water and power. Such endorsements and support in effect guarantee repayment of the enlargement costs even if the East Side division were not to be authorized.

Support for Auburn-Folsom south unit has been offered by a large group of agencies, individuals and groups and it should be noted that many of these came from potential contractors for water.

The water for Auburn-Folsom South unit is available and with construction of Auburn Dam and Folsom South Canal, operated in conjunction with the Folsom Dam and other Central Valley project works, delivery of much-needed supplies can be made in the Sacramento County and San Joaquin County areas.

Water is needed in the Central Valley for existing uses to preserve the existing economy and Auburn-Folsom south unit would provide much needed assistance.

Continually dropping groundwater levels are an indication of overdraft conditions and construction of Auburn-Folsom South unit would be a tremendous advance in meeting present needs, of all types, for supplemental water.

Addition of this proposed unit will provide many benefits and the financial data shows that the Central Valley project with Auburn-Folsom South unit will pay all costs allocated within the statutory period and also produce a substantial surplus fund.

In California, we are well underway with a \$1.75 billion project which will develop water to meet a portion of our needs. In spite of this project, many other private and local facilities and the present Central Valley project facilities, we are unable to keep pace with the demands for water. With 17 million people now and a forecast of 25 million in 12 years, we can see no stop to the steadily increasing demand.

Agriculture historically has used the greatest part of the water consumed in the Central Valley but we now have domestic, municipal, and industrial demands increasing rapidly. The need for additional supplemental water cuts all segments of our economy.

Water development works must be staged to meet water demands with allowance for factors such as leadtime for design and construction and available water supplies. We feel consideration of these factors lends support to authorization of Auburn-Folsom south unit.

This association, representing agencies, groups, and individuals in all of the counties from Placer and El Dorado on the north, through Sacramento, San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Kern on the south, strongly asks immediate authorization and construction of Auburn-Folsom south unit of Central Valley project as provided in S. 351.

MR. SORENSEN. Mr. Chairman, I would now like to introduce Mr. Kirby W. Hansen, of Fresno. He is the president of the Consolidated Irrigation District and the California Reclamation Association.

And I would note in passing that he is a past president of the California Irrigation Districts Association, which represents agencies in California which distribute approximately 75 percent of all the water handled in California.



He is appearing on behalf of the Central Valley East Side Project Association.

Senator Moss. Mr. Hansen, we are glad to have you, sir.

**STATEMENT OF KIRBY W. HANSEN, ON BEHALF OF CONSOLIDATED IRRIGATION DISTRICT OF SELMA, CALIF., AND CENTRAL VALLEY EAST SIDE PROJECT ASSOCIATION**

Mr. HANSEN. Mr. Chairman and members of the committee, I would like to file my written statement, along with the chart, a typical chart, of the underground water situation in our district.

Senator Moss. That may be done, Mr. Hansen. It will be part of the record.

(The statement referred to follows:)

**PREPARED STATEMENT OF KIRBY W. HANSEN, REPRESENTING CONSOLIDATED IRRIGATION DISTRICT OF SELMA, CALIF.**

I appear in support of the authorization of Auburn-Folsom south unit of the Central Valley project on behalf of the Consolidated Irrigation District of Selma, Calif., and the Central Valley East Side Project Association.

The Central Valley of California is fortunate in having excellent soil and climate conditions. In the last 20 years, this desirable combination has brought on population increases and the cultivation of many thousands of acres resulting in ever-greater demands for municipal and agricultural water.

My family has farmed in the Selma area in Fresno County since 1875, and I have observed the water conditions in this area, the surrounding Kings River area and the San Joaquin Valley for many years. Until the late 1940's, the local supplies were adequate. In fact, in Consolidated Irrigation District less than 15 years ago, there were areas with drainage problems. This is no longer the case. Consolidated Irrigation District now needs supplemental water.

In 1933, our State authorized the initial units of the present Central Valley project, but no one guessed that the Central Valley would need all of the units now operating, let alone need the additional units now contemplated.

In the period since 1933, we have developed or are completing developments of all of the feasible local projects and are still unable to meet the demands for water. Our streams have been fully developed for multipurpose uses by private, local, State, and Federal agencies.

The \$1.75 billion Feather River project, a California financed and developed system, will deliver over a million acre-feet of water each year to the San Joaquin Valley. Unfortunately, this amount will hardly meet the present overdraft in the delivery area.

As an example of the San Joaquin Valley situation, the Consolidated Irrigation District with a total area of 153,000 acres and an average supply of 270,000 acre-feet annually from the Kings River, in 1963, purchased 76,000 acre-feet of temporary surplus Central Valley project Friant water. In spite of this large purchase, our water table is very nearly the same as at this time in 1962. This indicates vividly the seriousness of our water shortage in a fully developed district with a long-established agricultural economy.

I have attached to my statement a chart showing water deliveries and ground water levels in Consolidated Irrigation District. The chart readily indicates the seriousness of our situation since a falling water table indicates an overdraft.

As you have been told, Auburn-Folsom south unit would further conserve the waters of the American River for use in Sacramento and San Joaquin Counties. Operated in conjunction with other Central Valley project conservation facilities, considerably more usable water can be made available than by independently operated works. Other benefits in fields such as flood control, power production, and recreation add much to the feasibility.

Construction of Folsom South Canal will permit delivery of needed agricultural and municipal water to Sacramento and San Joaquin Counties where present water supplies are inadequate to maintain present levels of development.

Provisions for enlargement of the Folsom South Canal can result in a logical step in the delivery of water to the east side of the San Joaquin Valley. The



Bureau of Reclamation has already issued a proposed Regional Director's Feasibility Report on the East Side Division and this report is now being finalized.

Bureau of Reclamation plans for delivery of available surplus water from the Sacramento Valley to the San Joaquin Valley provide for diversion from the Sacramento River into the proposed East Side Canal which would have the same alinement and location as the Folsom South Canal.

By providing for construction of the enlarged canal, if the Secretary of the Interior finds it to be feasible, an expenditure of \$23,540,000 would bring a saving of about \$17 million as compared to the cost of a separate parallel canal. This certainly appears to be a logical and sensible investment.

We support Auburn-Folsom south unit of Central Valley project as a necessary unit to provide water to the central part of the Central Valley and to provide a start in construction of the canal to serve lands farther south along the east side of the San Joaquin Valley.

Mr. HANSEN. I will simply pick out the highlights of my statement and read those.

Senator Moss. Fine.

Mr. HANSEN. I appear here in support of the authorization of the Auburn-Folsom south unit of the Central Valley project on behalf of the Consolidated Irrigation District of Selma, Calif., and the Central Valley East Side Project Association.

The Central Valley of California is fortunate in having excellent soil and climate conditions. In the last 20 years, this desirable situation has brought on population increases, and the cultivation of many thousands of acres, resulting in ever-greater demands for municipal and agricultural water.

My family has farmed in Fresno County since 1875, and I have observed the water conditions in this area, and the surrounding Kings River area, and the San Joaquin Valley, for many years.

Until the late 1940's, the local supplies were adequate. In fact, in the Consolidated Irrigation District, where I have been a director for 15 years, there were areas where the main problem was drainage. This is no longer the case. The Consolidated Irrigation District now needs supplemental water.

In the period since 1933, we have developed or are completing development of all of the feasible local projects, and are still unable to meet the demands for water.

Our streams have been fully developed for multipurpose uses by private, local, and State agencies.

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As an example of the San Joaquin Valley situation, the Consolidated Irrigation District, with a total area of 153,000 acres, and an average supply of 270,000 acre-feet annually from the Kings River, in 1963 purchased 76,000 acre-feet of temporary surplus Central Valley project Friant water, which, of course, comes out of the San Joaquin River.

In spite of this large purchase, our water table is very nearly the same as at this time in 1962. This indicates vividly the seriousness of our water shortage in a fully developed district with a long-established agricultural economy.

And I want to interject here that this is all small farmers, that this is the eastern side of Fresno County. There are three large irri-



gation districts there—Fresno, Alta, and Consolidated—and a number of small ones. But there are some 25,000 or more small farms, many of them less than 20 acres.

I have attached to my statement a chart showing water deliveries and ground water levels in Consolidated Irrigation District. The chart readily indicates the seriousness of our situation since a falling water table indicates an overdraft.

As you have been told, Auburn-Folsom south unit would further conserve the waters of the American River for use in Sacramento and San Joaquin Counties. Operated in conjunction with the other Central Valley project conservation facilities, considerably more usable water can be made available than by independently operated works. Other benefits in fields such as flood control, power production, and recreation add much to the feasibility.

Construction of Folsom South Canal will permit delivery of needed agricultural and municipal water to Sacramento and San Joaquin Counties, where present water supplies are inadequate to maintain present levels of development.

Provisions for enlargement of the Folsom South Canal can result in a logical step in the delivery of water to the east side of the San Joaquin Valley. The Bureau of Reclamation has already issued a proposed regional director's feasibility report on the East Side division, and this report is now being finalized.

Bureau of Reclamation plans for delivery of available surplus water from the Sacramento Valley to the San Joaquin Valley provide for diversion from the Sacramento River into the proposed East Side Canal, which would have the same alinement and location as the Folsom South Canal.

As Mr. Sorensen has already indicated, if the canal were enlarged at the present time to take care of this future project, it would mean a saving of \$17 million. This certainly appears to be a logical and sensible investment.

We support Auburn-Folsom south unit of Central Valley project as a necessary unit to provide water to the central part of the Central Valley, and to provide a start in construction of the canal to serve lands further south along the east side of the San Joaquin Valley.

May I add that this is a rescue operation, as Bill Gianelli indicated. We have a fully developed economy of small farms on the east side of the valley, and what we need is a means of keeping the ground water at a level which can make the pumping economically feasible.

I wonder if I may add one more thing?

Senator MOSS. You may, sir.

Mr. HANSEN. May I relate the growth of California to my own life?

Senator MOSS. Yes, sir. Go ahead.

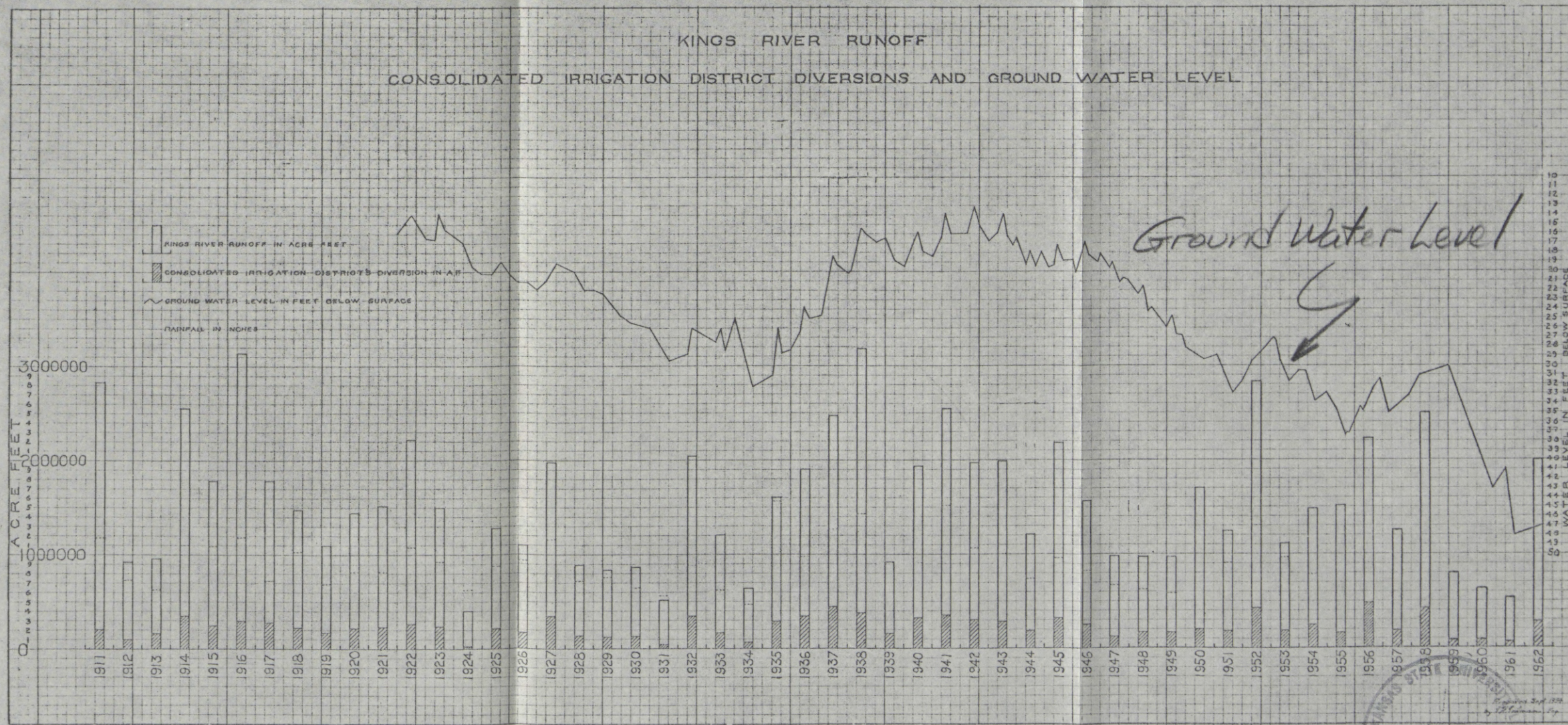
Mr. HANSEN. I was born in October of 1899. The census of California in 1900 showed that there were 1,485,000 people in the State of California. And there are today over 17 million people in California.

This has all happened in my lifetime, gentlemen.

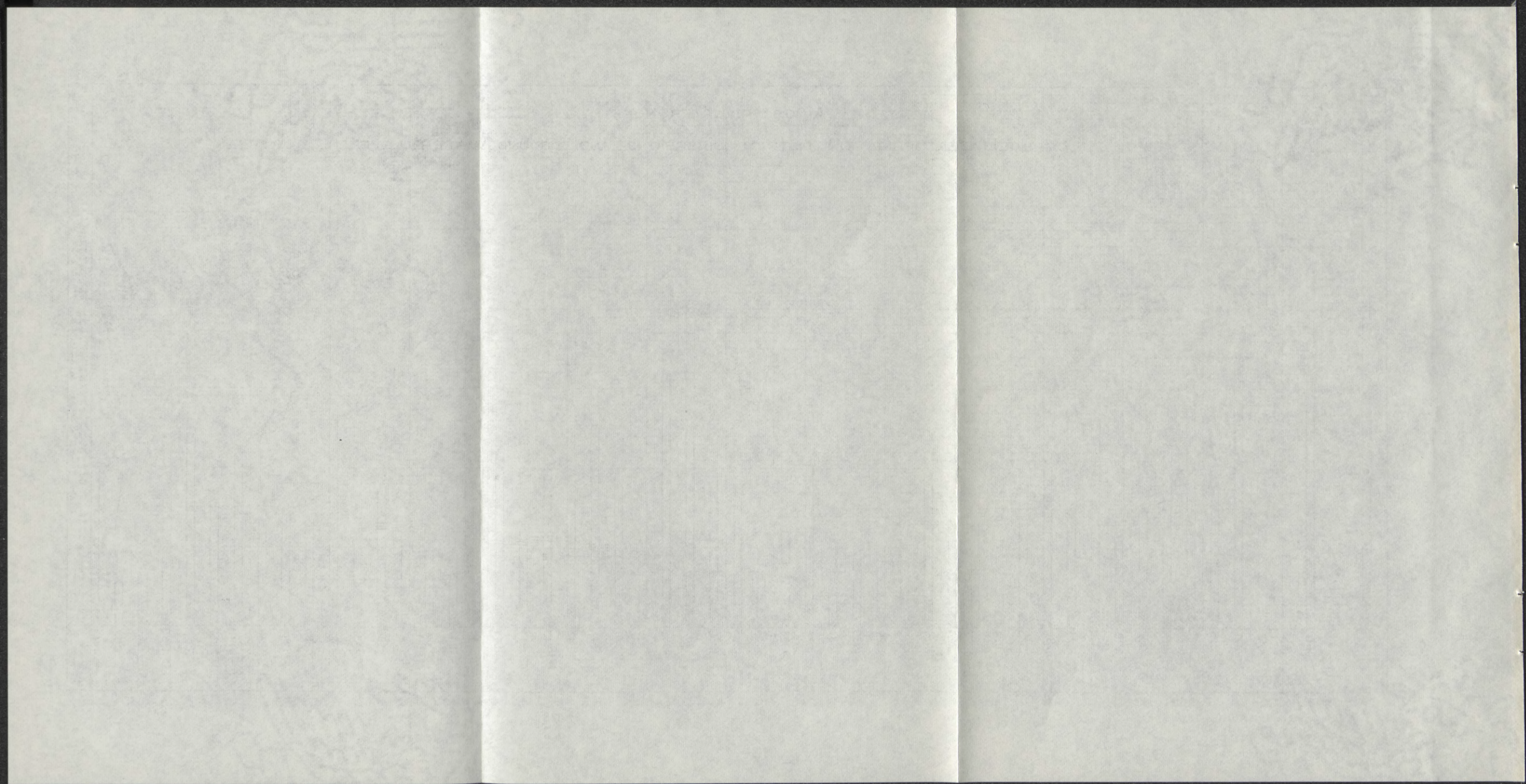
So if you wonder why we can keep working on \$3 billion worth of Federal, local, and State projects in our State, and not keep up, that is the answer.

Thank you very much.











Senator Moss. Thank you very much, Mr. Hansen.

That is of course dramatic proof of the need to press on with these water development and conservation matters.

Senator Burdick has a question.

Senator BURDICK. Has the water decreased to such an extent that you are getting salt water now?

Mr. HANSEN. Not on the east side of the valley, sir. No, sir.

Mr. SORENSEN. I might add there, sir, that prior to the import of Friant-Kern water from the initial features of the Central Valley project, there was a saline water pumping condition in a portion of Tulare County. And this particular localized area has now achieved a good water balance, in that the pumping conditions have cleared up.

And with the supplemental water from the Central Valley project, this has become satisfactory. And I think this is a vivid example of what can be done.

Senator BURDICK. You have not reached the last gasp, then, but you are getting close to it. Is that it?

Mr. SORENSEN. Of course, the situation is that if we continue to drop wells and lower our pumps, we are going to get into that situation more generally. This is obvious, I think, when we consider the continually dropping water table in so many of these areas.

Senator BURDICK. I know when I was in the Imperial Valley some time ago, there were many such situations.

Mr. BRODY. I might also add, Senator Burdick, that our problems there are not only questions of quality, but also the economic unavailability of water as you go deeper, the inability to pay the cost.

Senator Moss. The cost of raising the water, yes.

Mr. SORENSEN. Mr. Chairman, I would like to introduce Mr. Kenneth Smith, who is representing the Kern County Water Agency. He is accompanied by some Kern County people he would like to introduce, if he might.

Senator Moss. Mr. Smith, glad to have you, sir, and if you would like to introduce your other representatives, we would be glad to have you do that.

#### STATEMENT OF KENNETH SMITH, ON BEHALF OF KERN COUNTY WATER AGENCY

Mr. SMITH. Mr. Chairman and members of the committee, my name is Ken Smith, and I am an attorney from Ridgecrest, Kern County, Calif. I am appearing here today as a director of the Kern County Water Agency, and as chairman of their legislative subcommittee.

This is a countywide agency which was created by the people of Kern County.

With me I have a farmer from Pond who is president of our board of directors, David Bryant.

Senator Moss. Mr. Bryant, happy to have you with us, sir.

Mr. SMITH. I have another farmer who is also a member of our board of directors, from Arvin, Jack Thompson. And we have our engineering manager, Cal Ogilvie.

Senator Moss. Glad to have you here.



Mr. SMITH. Our agency was formed primarily for the purpose of acquiring supplemental water for Kern County because the county's underground water tables were being depleted at a fast rate.

If the county's present economy is to be maintained, supplemental water for the county is a necessity.

Now, you have already received copies of our Resolution No. 30, supporting this project, which was adopted by the agency unanimously on November 14, 1963.

The main point is that we are the last leg on the proposed east side division, and we want to support the Central Valley project a hundred percent. But in our resolution, we respectfully urge full consideration for adequate sizing of the system to care for the needs of the east side division of the Central Valley project.

Thank you, gentlemen.

Senator MOSS. Thank you, Mr. Smith. We appreciate that. And the resolution to which you referred will be part of the record.

We appreciate the other gentlemen coming here with you today.

Mr. SORENSEN. Mr. Chairman, that would conclude our east side group and lower area, but I would note that this association, known as the Central Valley East Side Project Association, represents people from the northern area, including Placer County, clear down the east side of Central Valley down through Sacramento, San Joaquin, Merced, Madera, Fresno, Kings, Tulare, and Kern Counties.

And the resolutions which have been presented here today, both the group that I put in and that others have submitted, represent general and active support for the immediate authorization and construction of the facility.

Thank you.

Senator MOSS. Thank you, Mr. Sorensen. We appreciate that.

Mr. BRODY. Mr. Chairman, I would like to indicate that I am also manager and chief counsel of Western Water District, the large water district on the west side of San Joaquin Valley, and I would like to have that district added to the long list of districts Mr. Sorensen mentions as being strongly in support of this project.

The board of directors of our district, while recognizing that it is not a direct beneficiary of this particular project, considers the welfare in terms of water of the entire valley is equally as important to them as their own water supplies, which they will obtain from the San Luis unit of the Central Valley project.

At this point, Mr. Chairman, that concludes our formal presentations, with the exception of the fact that I would like to ask that there be included in the record certain resolutions which I have before me.

One is the resolution of the Recreation Commission of the County of Placer; another is a resolution of the Placer County Board of Realtors; and third, a resolution of the Auburn Area Recreation and Park District; all of which strongly support and urge approval of this project.

In addition to that, I would like to have made a part of the record a statement of Assemblyman Paul J. Lunardi, of the Sixth District of California.

Mr. Lunardi was recently elected to the State Senate of California, and he, too, strongly urges support of the project itself.



Senator Moss. That may also go in, together with the resolutions. (The statement referred to follows:)

PREPARED STATEMENT OF PAUL J. LUNARDI, ASSEMBLYMAN, SIXTH DISTRICT,  
CALIFORNIA

Mr. Chairman and members of the committee, I strongly support construction of the Auburn-Folsom south unit of the Central Valley project, and urge that your committee approve S. 351 to accomplish this end.

As a former councilman and mayor of the city of Roseville, as a State assemblyman from the district in which Auburn Dam will be located, and now as a State senator-elect from the same area, I have had an opportunity to observe the needs of my area and the State in general for developments of this kind.

I supported the authorization of a 1 million acre-foot capacity Auburn Dam, and I even more strongly support the larger capacity as outlined in the Bureau of Reclamation's supplemental report on this project.

During the past years, we in California have consistently underestimated our rate of growth, and hence, our future water, power, flood control, and recreational needs. I think that an example of the existing Folsom Reservoir, now a part of the Central Valley project, will make this abundantly clear. When Folsom was first proposed for construction following World War II, a capacity of only 335,000 acre-feet was deemed adequate and all that could be economically justified. Senator, then Congressman, Clair Engle argued that such a capacity was not only inadequate, but would preclude future development of the American River to its full potential. After several years, he succeeded in obtaining authorization for a reservoir of 1 million acre-feet, or the full use of the site.

In 1955, a few months after completion of Folsom Dam, the greatest flow of record filled the nearly empty reservoir in 4 days. The smaller reservoir under these circumstances would have meant disaster for the city of Sacramento, downstream. The city was saved again on February 1 of this year, when a flow one-third greater than the 1955 flood was barely contained. Addition of the Auburn Reservoir capacity to the stream system will provide the margin of safety required for the Sacramento metropolitan area of 600,000 people.

The larger Auburn Reservoir also is needed to provide the needed water supply to meet the growing requirements, to meet the ever-growing power requirements, and to provide the recreational opportunities for this area.

I have cited the flood control example only to illustrate my point that we cannot underestimate California's growth, and that reservoir sites are becoming scarce. For these reasons, I urge that we fully develop each of these remaining sites and not foreclose future needs which are bound to come.

In the case of Auburn Dam and the Folsom South Canal, the needs are here today.

Again, I strongly support the Auburn-Folsom south unit, and respectfully urge affirmative action on S. 351. I appreciate the opportunity of having this statement made a part of the record of your proceedings.

Mr. BRODY. By way of summary, Mr. Chairman, I would like to state that in further response to the question which was raised by Senator Burdick earlier in the presentation of our testimony, with respect to the willingness of local agencies to contract for water supplies to be made available here, and for commodities to be produced as a result of the project itself, I think the testimonies which have been presented and the statements which have been made a part of the record will clearly indicate that the problem will not be one of securing adequate contracts to secure reimbursement to the United States, but, rather, not enough water to go around.

For that reason, we feel that there is ample justification for the authorization of the project.

The second point I would like to emphasize is the fact that we in California are not always famous for our unanimity of views, as we express them, but I think that certainly it has been demonstrated



here today that the entire State of California strongly supports and urges approval of this project.

And finally, I would point out that we certainly appreciate the fact that this committee has amply demonstrated by its actions in the past that it recognizes that projects of this type are of tremendous benefit not only to the areas for which they are directly providing the water supplies and power supplies, but also that this is of great benefit to the Nation itself in the support of its population.

And we are deeply appreciative of the attitude which has been shown by the committee in the past on other projects that are very important to California, and we are especially appreciative, I might repeat, that the committee has set aside this time during a very busy schedule to hear these witnesses.

Senator Moss. Thank you, Mr. Brody. We appreciate your very fine cooperation in presenting the case here this morning in a remarkably short time. I think we have made a very excellent and complete record, which will be before this committee.

We heard testimony on a similar bill in the 87th Congress on the same general proposal, and this will bring us up to date and give us a record, now, on which we can proceed.

I appreciate the cooperation of all of the witnesses who have come. I recognize that you have traveled probably the farthest distance of any witnesses, unless we call them from Alaska or Hawaii, on rather short notice.

But this committee is very concerned about the problem presented by both of your Senators who represent California in the U.S. Senate. They have been most anxious that we proceed, and we have tried to move as soon as we were in position, after we got the reports from the departments on the updated bill.

And with the cooperation of everyone, I think we have accomplished a good bit this morning.

Tomorrow this committee will hear the testimony of the Department witnesses, Secretary Holum and Commissioner Dominy being before us.

We may then go more into the technical provisions of the bill, to see that they are fully understood and are in accord with the general policies we follow in this committee. At that time, then, we will have completed the record on which the committee will be able to act.

Even though it is a crowded time in the Senate, it is also a crowded time to get on with our work in water resource development.

I think the testimony here was very telling and dramatic of the need to act now and not wait longer to meet a problem which is growing in this area of California.

So again my thanks to all of you.

I have left the record open for a few additional resolutions and statements that will be coming in within the next few days.

I would like to announce that if any of the witnesses feel there is some additional evidence that they would like to present, it may still be submitted in writing within the next 10 days, and will go into the record and be part of the record.

Do you have any comments, Senator Kuchel?



Senator KUCHEL. No, sir; except to express my thanks to you, Mr. Chairman. These are busy days, and I am most grateful.

I think that what you have commented on here with respect to the quality of the testimony of these fellow citizens of ours in California is certainly correct. I look forward to returning here tomorrow morning for the conclusion of these hearings.

Senator MOSS. Thank you, Senator Kuchel.

We are now in recess until 10 o'clock tomorrow morning.

(Whereupon, at 12:15 p.m., the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, November 19, 1963.)







## AUBURN-FOLSOM SOUTH UNIT OF THE CENTRAL VALLEY PROJECT

TUESDAY, NOVEMBER 19, 1963

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

The subcommittee met, pursuant to recess, at 10 a.m., in room 3110, Senate Office Building, Senator Frank E. Moss (chairman of the subcommittee) presiding.

Present: Senators Frank E. Moss (Utah), Quentin N. Burdick (North Dakota), Thomas H. Kuchel (California), Gordon Allott (Colorado), and Len B. Jordan (Idaho).

Also present: Jerry Verkler, staff director; Stewart French, chief counsel; Roy M. Whitacre, professional staff member; and Richard D. Andrews, minority counsel.

Senator Moss. The subcommittee will now come to order.

We will continue with our hearings on S. 351, a bill to authorize the Auburn-Folsom south unit, Central Valley project, California.

We had a very fine hearing yesterday, and heard from a large number of witnesses from the State of California. It was one of those hearings where there was unanimity. Everyone testified for the bill yesterday, enthusiastically for it.

Today we will devote our time to hearing the witnesses from the Department of the Interior, who will present to us the Department's analysis and proposal of this project.

Our first witness will be the Assistant Secretary of the Interior for Water and Power, Kenneth Holum.

Mr. Holum, will you come forward, please?

We are delighted to have you here.

And Floyd Dominy, the Commissioner of Reclamation, will accompany you to the table, and we will hear from him also.

**STATEMENTS OF KENNETH HOLUM, ASSISTANT SECRETARY FOR WATER AND POWER, AND FLOYD E. DOMINY, COMMISSIONER OF RECLAMATION; ACCOMPANIED BY ROBERT J. PAFFORD, JR., REGIONAL DIRECTOR, BUREAU OF RECLAMATION**

Mr. HOLUM. Thank you, Mr. Chairman.

I have Commissioner Dominy with me this morning; Robert Pafford, Regional Director, Bureau of Reclamation; and other personnel from the Department of the Interior are here. We have statements



to present to you, and we hope that we can supply any information or answer any questions as the committee may require.

Before I get into my statement, I would like to take this opportunity to express my appreciation, and I am sure, also, the appreciation of Commissioner Dominy, to you, Mr. Chairman, and the members of the committee, for reversing the order that I know you prefer as far as these hearings are concerned, to make it possible for the Commissioner and I to keep longstanding commitments out of town.

I had a very brief report this morning, after returning to the city, on the excellent hearing that was held yesterday, and the presentations that were made by the congressional delegation from the State of California, and other people from the State who are tremendously interested in this project.

I understand, as you do, that there was a spirit of unanimity in the hearings yesterday, and I hope that is the way it will continue today.

Secretary Udall appeared before the committee a year ago to express the Department's support for this very fine project, the Auburn-Folsom south unit, an integral unit of the Central Valley project, that was being considered under Senate bill 103, 87th Congress.

I am happy to be here today, to again express the Department's interest and concern for this project, and to express our hope that it will be authorized and constructed in the very near future.

The situation which prompted the Congress to direct us to instigate the planning for this unit almost 15 years ago becomes more critical with every year that passes, and this development is needed to "rescue" the economy of this key area of the Central Valley from threatened strangulation of its agricultural base.

Such projects as we are proposing take 10 or more years to build, and another 10 years to attain optimum agricultural production. We must, therefore, consider undertakings of this magnitude, not in terms of the present situation, but rather in terms of the prospective needs and requirements, both short and long term.

The Auburn-Folsom south unit would be an extension of the Federal Central Valley project. It is designed to utilize waters of the American River for irrigation, flood control, hydroelectric power, municipal and industrial water supplies, fish and wildlife, and recreation purposes.

Operating in conjunction with existing Federal facilities and the facilities built by State and other non-Federal agencies, it will make the best possible use of the water supplies of the American River. It will serve, primarily, the area lying between Sacramento and Stockton, but will also supplement long-range plans for water service to the entire San Joaquin River Basin.

Briefly, we have evolved a plan for the use of the waters of the American River to serve a gross area of half a million acres in an important portion of the Central Valley of California. Dry land agriculture in that area is limited by sparse and highly seasonal precipitation to grazing and some small grains.

Farmers, irrigation districts, municipalities, and industries have fully developed the local surface and ground water resource. Constantly increasing pumping lifts prove that the ground water which has accumulated over many years is being mined by present develop-



ments, making further expansion extremely speculative and long-range maintenance of the present economy virtually impossible.

The Auburn-Folsom south unit would bring an annual increase of about 800,000 acre-feet of new water into this area to support the existing economy and future growth of agricultural production and expanding cities and industries.

The rapidly growing needs of the Nation for the specialized agricultural products adaptable to this area and of California in particular, for desirable living conditions for its citizens, and for expanded industrial development make it essential that we plan ahead to be ready to meet those needs. Water and power are the two most essential ingredients of the ultimate solution.

The water conserved and delivered by the Auburn-Folsom south unit will permit effective irrigation of about 400,000 acres of highly productive lands.

Although a major portion of the irrigable lands are now irrigated, the water supply is not adequate to serve the entire area, or, in the long run, to maintain the present acreage. The imported water, therefore, will not only relieve the water users from the ever-present hazards of drought, floods, and recurrent water shortages, but also will remove existing difficulties in obtaining water for domestic and industrial use.

We are well aware of the sentiment of many Members of Congress that we should not invest Federal funds in projects which might encourage expansion of production of surplus crops. I should therefore like to point out that the crops most likely to be grown in the Folsom south service area are those not now in surplus supply, and include many specialty crops for which there is now a ready and growing market.

Therefore, as Secretary Udall indicated last year and I repeat today, if the committee sees fit to adopt an amendment to this bill prohibiting the use of water from this unit for the production of surplus crops for a specific period, as was done in the case of the San Luis unit and other recent reclamation authorizations, we would have no objection to such an amendment.

Senator KUCHEL. If I may, Mr. Secretary, interrupt you for just a moment, I am glad you have made that statement, for yesterday one of our colleagues did raise the question, and I would like to have the record show that I will offer such an amendment as to newly irrigated lands, like last year's committee amendment.

Mr. HOLM. Thank you, Senator.

The San Luis unit, which is now under construction, will involve new demands for water from the delta and for pumping power from the Central Valley project power system. Unless Auburn Dam and powerplant are built in the near future, it will be necessary to curtail power sales to present customers of the Central Valley project as existing power supplies are diverted to meet San Luis unit pumping requirements.

The flexibility of operation of Auburn Dam and powerplant, having Folsom and Nimbus Reservoirs available for reregulation of its releases, will make it possible to operate the powerplant in a manner to meet the peaking power requirements.



Auburn Reservoir would be effective in protecting the city of Sacramento and its environs from floods which are beyond the capacity of Folsom Reservoir alone to control. A major flood occurred in 1955 as Folsom Dam was being completed, and the city was spared a disaster by virtue of the near empty Folsom Reservoir.

This storage situation would not likely ever occur again, but the floodflows may be equaled or exceeded at any time. In fact, a major flood occurred in February 1963, with a peak flow exceeding that of 1955.

Our feasibility report on the Auburn-Folsom south unit was transmitted to the Congress on January 15, 1962, and was printed as House Document 305, 87th Congress. On October 21, 1963, a supplemental report was sent to the Congress, which incorporates the most recent policies and criteria for formulation and evaluation of water resources projects, including the Presidential instructions contained in Senate Document 97, 87th Congress.

We now propose that Auburn Dam and Reservoir be built to a capacity of 2,500,000 acre-feet instead of 1 million acre-feet. This larger reservoir would produce much more water on an annual yield basis, conforming more nearly to local water requirements, which have been found to be much larger than our original studies indicated.

The higher head and the greater quantity of regulated water available under the new plan also make it practicable to increase the initial power installation from 155,000 to 240,000 kilowatts, with provision for future units to raise the ultimate installation to 400,000 kilowatts.

The original feasibility report included a suggestion that authorization for purchase of recreation lands in the vicinity of Auburn Reservoir be delayed pending further study of the measures necessary to implement the President's instructions as given in Senate Document 97.

Those studies have since been conducted, with all of the Interior Department agencies engaged in water resources development participating, and accordingly, we now recommend that sufficient lands be acquired adjacent to Auburn Reservoir to assure the future realization of its maximum recreational potential.

We discussed briefly at the 1962 hearings a pending contract between the United States and the Placer County Water Agency. The contract is now in force, providing for a graduated schedule of diversion, up to 237,000 acre-feet annually by the year 2007, of American River water into western Placer County for municipal, industrial, and agricultural uses.

Part of this diversion will be made pursuant to water permits to be obtained by the agency from the state water rights board. The remainder of the supply will be purchased by the agency from the Central Valley project, under reclamation law. The effect of the diversion of this quantity of water on the Auburn-Folsom south unit is reflected in our supplemental report.

The supplemental report presents one principle which is used for the first time in a reclamation proposal. The tremendous recreation potential attributable to Auburn Reservoir working in conjunction with Folsom Reservoir and other project facilities, under conservative



evaluation criteria, would provide annual benefits of more than \$6,500,000.

The costs of the unit were allocated among functions in the customary manner, resulting in an allocation to recreation of \$47,521,000, about 12 percent of the total costs.

A bill proposing new legislation to set a national policy on the permissible extent of the Federal Government's participation in recreation and fish and wildlife enhancement aspects of such projects has recently been drafted by the Bureau of the Budget, sent to the Congress, and introduced as H.R. 9032.

We have applied the provisions of that bill to the Auburn-Folsom south unit in the supplemental report. Of the costs allocated to recreation and fish and wildlife under those provisions, \$30 million would be nonreimbursable, and \$17,521,000 will be reimbursable with interest, including \$1,299,000 of interest during construction.

Water service to the Foresthill Divide area and to the Folsom-Malby area and provisions for future construction of the East Side Canal to deliver water the length of San Joaquin Valley are additional purposes of the unit.

Each of these facets of the development would further extend the benefits of the Federal investment into areas of urgent water need. Each increment is individually justifiable and contributes to the goal of maximizing net benefits of the overall development.

The net effect of the modifications in the plan and in the economic and financial analyses is to increase the cost of the unit from \$267,577,000 to \$425 million, including cost of provisions for future additional power units. This increase in cost is accompanied by a substantial increase in evaluated benefits, resulting in the ratio of benefits to costs improving from 3.25 to 1 to 3.71 to 1.

The financial feasibility of the Auburn-Folsom south unit as a part of the Central Valley project is assured, and a substantial surplus of revenues over obligations will accrue within the 50-year repayment period.

Both of our planning reports on this unit have been studied, reviewed, and commented upon by the State of California, and the interested Federal agencies, and by the Bureau of the Budget for the President. While some suggestions for improvement or modification were made, all of the comments received have been strongly in favor of the project.

In planning this proposed new unit of the Central Valley project, we have enjoyed the utmost support and cooperation of the State and many other agencies and departments of the Federal Government.

This proposed water resources development is needed and desired by the people of the area, who have sent their representatives here to tell you of their support and willingness to assume the responsibilities of contracting for water service and operation of distribution facilities.

It is a logical, feasible addition to one of Reclamation's most successful projects, and would constitute a most worthy investment of Federal funds, with prospects of returning to the Treasury over 90 percent of its costs.

In addition to tangible benefits exceeding costs in the ratio of 3.7 to 1, the unit would provide many intangible but nonetheless valu-



able benefits in promoting the general health, happiness, and prosperity of the Nation.

I strongly urge the enactment of S. 351, with the minor clarifying amendments proposed in the Department's legislative report of November 13, 1963.

As I said at the beginning of my statement, Mr. Chairman, Mr. Dominy, and Regional Director Pafford, and other representatives of the Department of Interior are here this morning. We are here to answer your questions and supply the information that you require in any way that you may deem appropriate.

Senator Moss. Thank you, Secretary Holum.

We appreciate your testimony. It was a very fine statement.

I do not think I have any questions at this point. Perhaps I might have when Commissioner Dominy completes his statement.

Do you have a statement also, Mr. Dominy, or are you just here to answer questions today?

MR. DOMINY. Mr. Chairman, I have a rather complete statement that I would like to have made a part of the record and then I would like to refer to a few paragraphs of it to round out the record which you have already made in previous hearings, including the one yesterday.

Senator Moss. I think that will be fine. The statement, then, of Commissioner Dominy will be placed in the record in full and we will ask the Commissioner to highlight those parts of the statement that he would like to emphasize, and then there may be some questions that we will have.

(The statement referred to follows:)

PREPARED STATEMENT OF FLOYD E. DOMINY, COMMISSIONER, BUREAU OF  
RECLAMATION

Mr. Chairman, the Bureau of Reclamation is proud to present its plan for development of the Auburn-Folsom south unit of the Central Valley project. This is an urgently needed and most worthy multiple-purpose development, which will operate as an integral feature of the Central Valley project to meet immediate and long-range requirements for water, for agricultural, municipal, and industrial uses, hydroelectric power, flood control, recreation, and fish and wildlife.

The investigation of this unit stems from general authority of reclamation law and from a specific congressional directive contained in the act of October 14, 1949, authorizing the American River Basin development. By that act, were directed "to undertake a study of the water resources and requirements of the entire American River watershed and the areas serviceable therefrom and particularly of a diversion canal at the highest feasible level extending southerly from Folsom Reservoir as will permit the maximum beneficial use of the water for irrigation of the lands lying under said canal in El Dorado and Sacramento Counties." Our feasibility report, which was printed as House Document No. 305, 87th Congress, and our supplemental report, which has recently been transmitted to the Congress, are in direct response to this directive.

In February of 1962, we appeared before this committee in support of the Auburn-Folsom South unit, as described in House Document No. 305. At that time, we contemplated construction of Auburn Dam and Reservoir to a capacity of 1 million acre-feet and a powerplant to a capacity of 155,000 kilowatts. Subsequently, on May 15, 1962, the President approved for application by the executive agencies involved in water resource development a statement entitled "Policies, Standards, and Procedures in the Formulation, Evaluation, and Reivew of Plans for Use and Development of Water and Related Land Resources," which was printed in Senate Document 97, 87th Congress. Since



we prepared our feasibility report (H. Doc. 305), a number of water users on the American River have firmed up their plans for developing larger quantities of water for beneficial use than were anticipated at that time. The largest such development is that of the Placer County Water Agency, with whom we have consummated contracts which will assure harmonious operation of the Federal development along with the agency's project.

The principal physical modification involved in the plan described in our supplemental report is the proposal to construct Auburn Dam to form a reservoir of  $2\frac{1}{2}$  million acre-feet. Auburn powerplant would be built with a capacity of 240,000 kilowatts. Minor modifications of the plan involve increases in the acreage of land to be acquired and the specific facilities to be provided for recreation and fish and wildlife enhancement. It was also necessary to adjust the operating criteria for Auburn Dam and Reservoir to assure coordination with the plans of the Placer County Water Agency and to recognize other changing conditions of water use in the American River Basin.

The plant of development for the Auburn-Folsom South unit is part of a comprehensive basinwide plan for use of the waters of the American River which was developed as an integral part of the Central Valley project ultimate plan. The unit is situated in north-central California, approximately 100 miles east and northeast of San Francisco. The American River originates in the Sierra Nevada and flows westerly, descending through steep canyons, and entering Sacramento Valley near Folsom Lake. At the city of Sacramento, the American River flows into the Sacramento River, which, in turn, flows through the Sacramento-San Joaquin River Delta and thence into San Francisco Bay and the Pacific Ocean.

The major purpose of the Auburn-Folsom South unit is to provide irrigation water for a net area in excess of 400,000 acres of irrigable lands in Sacramento and San Joaquin Counties. More than half of this area is presently irrigated from local surface water supplies and by pumping from ground water. However, the constantly increasing withdrawal of ground water coupled with several recent years of less than normal precipitation has caused the ground water levels to recede as much as 40 feet in the past 10 years. A careful examination of the hydrology of the service area indicates that the withdrawal of water has exceeded the natural recharge of the ground water aquifer in recent years by about 97,000 acre-feet annually. Under these circumstances, the farmers who are dependent upon ground water are experiencing increasing difficulty in obtaining water supplies, and there is no reasonable prospect that the considerable acreage of potentially productive lands which are not now irrigated can be developed successfully. The seriousness of the water situation is further aggravated by the increasing dependence of the cities and towns in the area for municipal and industrial water supplies from the ground water aquifer.

Above the Folsom South Canal are several areas which are potentially productive or attractive for urban or suburban development. Two of these areas, the Foresthill Divide area which lies between the North and Middle Forks of American River and the Folsom Malby area, which lies east of Sacramento near Folsom Reservoir, will be provided water service through facilities of the Auburn-Folsom South unit.

The principal storage facility on the American River at this time is Folsom Reservoir, which was built by the Corps of Engineers, Department of the Army, under authorization of the Flood Control Act of 1944 and the American River Basin Development Act of 1949. Nimbus Dam and Reservoir below Folsom serves as a regulating facility and will be the diversion point for the Folsom South Canal. Powerplants at these two dams have an aggregate installed capacity of 175,000 kilowatts. Under provisions of the 1949 act, the dams and powerplants are operated by the Bureau of Reclamation as integral features of the Central Valley project. Auburn Dam and Reservoir, which is proposed as the major feature of the Auburn-Folsom South unit, will operate in conjunction with Folsom and Nimbus Dams to produce the water supply necessary to provide service to lands under the Folsom South Canal and the other service areas of the unit.

Auburn Dam will be a high earthfill structure, rising about 690 feet above the existing streambed. It will be located on the North Fork of American River, 2 miles southeast of Auburn and 30 miles northeast of Sacramento, Calif. The 63 million cubic yards of embankment required for this dam can be obtained from borrow pits in the immediate vicinity of the damsite. The site is in a narrow V-shaped canyon and is geologically sound and adequate for a dam and



reservoir of the size proposed. A concrete-lined chute spillway will be capable of discharging 200,000 cubic feet per second of floodflows at the time that the reservoir contains a surcharge of 110,000 acre-feet. Outlet works, discharging through steel pipe in the diversion tunnel, will be capable of evacuating the flood control space or of releasing cold water as required for fish enhancement purposes.

The reservoir formed by the dam will have a total capacity of about 2,500,000 acre-feet. The active capacity of the reservoir will be 2,131,000 acre-feet, which will be used for flood control, irrigation, municipal and industrial water, and power storage purposes.

At normal water surface, elevation 1,120, Auburn Reservoir will cover an area of 10,390 acres. At minimum operating water level, elevation 796, a pool of 3,250 acres would be available. The entire reservoir would be contained in the rugged and essentially undeveloped canyons of the Middle and North Forks of the American River. Much of the area to be acquired is in public domain. The privately owned land generally is unimproved, precipitous, or otherwise unsuitable for agricultural or domestic use. We propose to acquire a total area of about 37,500 acres for Auburn Dam and Reservoir and to assure adequate public lands surrounding the reservoir to realize the tremendous potential of this site for recreation and fish and wildlife enhancement purposes. Of this area, about 15,000 acres are presently in public domain, and 22,500 acres are privately owned.

Several roads cross the reservoir site at present and will have to be relocated. Bridges will be provided as necessary to carry these roads across the reservoir, and a substantial saving in transportation costs to the general public will be realized by use of these relocated facilities. The other principal improvements within the right-of-way are telephone lines and forest service roads, primarily for fire prevention, which will be relocated as necessary at project cost.

Auburn powerplant will be located at the toe of the dam and will consist of three turbine-driven units initially, capable of generating 80,000 kilowatts each for a total installed capacity of 240,000 kilowatts. The plant is designed to operate under an average head of 491 feet. Operation of Auburn powerplant will result in an increase in the Central Valley project power system generation of 646 million kilowatt-hours annually. Accounting for transmission losses, the energy available to the project at load centers by virtue of Auburn powerplant operation will be increased by 613 million kilowatt-hours annually, and the dependable capacity of the system will be increased by 169,000 kilowatts. Basic facilities to permit future installation of two additional units will be installed if preconstruction studies show this to be desirable.

Folsom South Canal will be the main water delivery feature of the unit. It will begin at Lake Natoma above Nimbus Dam and will flow southward by gravity about 67½ miles along the east side of the San Joaquin Valley to a terminal at Lone Tree Creek, southeast of Stockton, Calif. The canal will be concrete lined for its entire length. It will have an initial capacity of 3,500 cubic feet per second, as required to service the Folsom south area. At a point about 24 miles south of the diversion point, a connection will be made with the Hood-Clay pump canal, a feature of the potential east side division. From this point to the southern terminal, the Folsom South Canal will carry water for the east side division as well as the Folsom south service area. The capacity immediately below the Hood-Clay connection will be 7,000 cubic feet per second and will gradually be decreased as the canal flows southerly to 5,000 cubic feet per second near the point where the east side canal alignment departs from the Folsom South Canal. Distribution and drainage systems to complement the Folsom South Canal in providing service to the area will be required, and under the proposed authorization may be built with Federal funds or by some form of local financing as may be determined in the future. Deep wells estimated to cost \$1,566,000 would be financed and constructed by the local interests.

The use of Folsom South Canal as a dual facility to serve the future East Side division, as well as the Folsom south service area, is proposed as a matter of long-range economy. The capital investment required for the Folsom South Canal to serve only the Folsom south area is estimated at \$42,095,000. The additional costs associated with building this canal initially to a sufficient capacity to serve the dual purpose of supplying the East Side division, as well as the Folsom south area, are estimated at \$23,540,000. This pro-



cedure will result in substantial future savings in construction of the East Side division, which is soon to be proposed as an additional increment of the Central Valley project. The saving in construction cost is estimated to be about \$16 million over the alternative cost of a parallel canal built at some later date.

The Folsom-Malby area lies south of, and close to, the existing Folsom Dam and consists of a large tract of land which is not attractive for agricultural use but due to its proximity to existing industrial development and growing suburban housing areas would be an extremely attractive suburban housing area if an adequate water supply could be made available. One of the features of the proposed Auburn-Folsom south unit is a pumping plant on the shore of Folsom Lake, an aqueduct, and a terminal reservoir to provide water for this purpose. The pumping plant will be known as the Mormon Island pumping plant and will be capable of pumping 110 cubic feet per second through a head of 195 feet. About 25,000 acre-feet of water annually would be conveyed southerly through a concrete pipeline, extending about 10 miles to the County Line Reservoir on Deer Creek, a tributary of the Cosumnes River. County Line Reservoir, so-called because it will be astride the boundary between Sacramento and El Dorado Counties, will be formed by an earthfill dam about 80 feet high with a crest length of 650 feet. It will have a gross capacity of 40,000 acre-feet and an active capacity of 25,000 acre-feet. The reservoir will form a lake of about 1,660 acres at maximum and normal water elevation 445. A minimum pool of 60 acres will be available at elevation 390. A second pumping plant at this reservoir will deliver water to the distribution system to serve some 12,000 acres of land with domestic and industrial water supplies. The reservoir will also provide a measure of flood protection for lands along Deer Creek and will be attractive for both recreation use and fish and wildlife management.

The Foresthill Divide development will be located on the divide between the North and Middle Forks of American River. The natural water supplies for this area are very limited, and the town of Foresthill and surrounding lands have reached the practical limit of development because of the shortage of water. The main feature of the Foresthill development is the Sugar Pine Reservoir on North Shirttail Canyon Creek, a tributary of the North Fork of the American River. An earthfill dam about 200 feet high with a crest length of 850 feet at this site would create a reservoir with a total capacity of 16,500 acre-feet, of which 15,400 acre-feet would be active storage capacity. The lake formed by this dam would have a maximum surface area of 280 acres at elevation 3,668 and a minimum surface area of 45 acres at elevation 3,560. A pressure pipe conduit from Sugar Pine Reservoir would deliver 4,400 acre-feet annually 13.7 miles southerly to the town of Foresthill, where the water would be used for municipal supply and for irrigation of some 1,340 acres of irrigable land.

The total estimated cost of the Auburn-Folsom South unit is given in the following tabulation:

*Supplemental report, March 1963*

Construction costs:

|                                            |                          |
|--------------------------------------------|--------------------------|
| Auburn Dam and Reservoir.....              | \$231,312,000            |
| Auburn powerplant.....                     | 25,233,000               |
| Switchyard and transmission.....           | 13,866,000               |
| Operating facilities.....                  | 750,000                  |
| Fish and wildlife mitigation lands.....    | 141,000                  |
| Recreation lands and basic facilities..... | 10,803,000               |
| Auburn, subtotal.....                      | <sup>1</sup> 282,105,000 |
| Folsom south area.....                     | 86,086,000               |
| Foresthill Divide area.....                | 7,523,000                |
| Folsom-Malby area.....                     | 11,916,000               |
| East Side Canal enlargement.....           | 23,540,000               |
| Total.....                                 | <sup>1</sup> 411,170,000 |

<sup>1</sup> The costs of additional facilities for future power installation are not included. Dependent on final design studies, they are estimated to range from \$3,500,000 to \$13,500,000.

A comparison of the benefits and costs of the Auburn-Folsom South unit reveals its economic justification with an overall excess of benefits over costs in the ratio of 3.7 to 1 as detailed in the following table.



# 102 AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT

## Comparison of benefits and costs

[In thousands of dollars]

| Item                              | Auburn and<br>Folsom South<br>features | Folsom-<br>Malby area | Foresthill<br>Divide area | Total     |
|-----------------------------------|----------------------------------------|-----------------------|---------------------------|-----------|
| Annual equivalent benefits:       |                                        |                       |                           |           |
| Irrigation.....                   | 45,537                                 |                       | 324                       | 45,861    |
| Municipal and industrial.....     | 879                                    | 361                   | 132                       | 1,372     |
| Commercial power.....             | 6,546                                  |                       |                           | 6,546     |
| Flood control.....                | 375                                    | 80                    |                           | 455       |
| Recreation.....                   | 5,407                                  | 504                   | 41                        | 5,952     |
| Fish and wildlife.....            | 478                                    | 60                    | 48                        | 586       |
| Other.....                        | 110                                    |                       |                           | 110       |
| Less other benefits forgone.....  |                                        | -127                  |                           | -127      |
| Less existing CVP storage.....    | -218                                   | -25                   |                           | -243      |
| Total benefits.....               | 59,114                                 | 853                   | 545                       | 60,512    |
| Annual equivalent costs:          |                                        |                       |                           |           |
| Construction costs.....           | 11,282                                 | 364                   | 228                       | 11,874    |
| Interest during construction..... | 1,105                                  | 11                    | 40                        | 1,156     |
| O.M. & R.....                     | 3,212                                  | 31                    | 18                        | 3,261     |
| Total costs.....                  | 15,599                                 | 406                   | 286                       | 16,291    |
| Benefit-cost ratios.....          | 3.79:1.00                              | 2.10:1.00             | 1.90:1.00                 | 3.71:1.00 |

In preparing the plan of development for the Auburn-Folsom South unit, careful consideration has been given to all of the multiple-purpose uses of the land and water resources. Assistant Secretary Holum has pointed out the criteria which were used for assuring adequate consideration of fish and wildlife and recreation opportunities. The total allocation of costs to these functions was determined by the customary allocation procedure at \$47,662,000, of which \$12,044,000 consists of costs of land and basic facilities. Applying the criteria of the proposed bill, H.R. 9032, to this function, we find that \$30 million of the recreation and fish and wildlife, enhancement cost would be nonreimbursable, and the remainder would be reimbursable with interest.

The total cost of the Auburn-Folsom south unit, included interest during construction on those portions which are reimbursable with interest, is \$426,572,000, excluding an allowance for Central Valley project power to be used for Folsom-Malby area pumping. These costs are allocated among the functions by the customary separable costs-remaining benefits method, resulting in the following cost allocation:

### Cost allocation:

#### Reimbursable:

|                                   | Total         |
|-----------------------------------|---------------|
| Irrigation.....                   | \$169,880,000 |
| Municipal and industrial.....     | 27,355,000    |
| Interest during construction..... | 2,091,000     |
| Power.....                        | 134,341,000   |
| Interest during construction..... | 12,012,000    |
| Recreation and fish.....          | 16,222,000    |
| Interest during construction..... | 1,299,000     |
| Total.....                        | 363,200,000   |

#### Nonreimbursable:

|                          |            |
|--------------------------|------------|
| Flood control.....       | 9,691,000  |
| Fish mitigation.....     | 141,000    |
| Recreation and fish..... | 30,000,000 |

Total..... 39,832,000

East side..... 23,540,000

Grand total..... 426,572,000

Minus interest during construction..... -15,402,000

Cost estimate..... 411,170,000



The Auburn-Folsom south unit, being an integral part of the Central Valley project, is analyzed for financial feasibility as an increment to that project. All reimbursable costs of the project, including the Auburn-Folsom south unit, could be repaid within 50 years of the date when the final construction feature is completed, which is estimated to be fiscal year 2022. On that date, all reimbursable costs would have been repaid to the United States with over \$300 million in interest payments on the power, municipal water, and reimbursable recreation and fish and wildlife aspects, and a surplus of \$450 million would be available to assist in the development of additional increments of the Central Valley project.

Water service provided by the unit will be made available at the Folsom south service area at \$2.75 per acre-foot for irrigation water and \$14 per acre-foot for municipal and industrial water. In the Folsom-Malby area, municipal and industrial water service will be provided at \$32 per acre-foot. Water service in the Foresthill area will be made available at \$2.50 per acre-foot for irrigation water, and \$85 per acre-foot for municipal and industrial water. These rates are in accordance with general policy and provisions of reclamation law and are based on the criteria that irrigators will repay in accordance with their computed ability. Auburn-Folsom South unit irrigation water users will be able to repay about two-thirds of the costs allocated to that purpose, the other one-third being derived from other project sources. Municipal and industrial water users will be expected to repay the entire costs allocated to that function with interest over a period of 50 years. Reimbursable recreation and fish and wildlife enhancement costs will be repaid from power and municipal water revenues or from some source of revenues associated with recreation or fish and wildlife. The power developed at Auburn powerplant that is not utilized for pumping of irrigation water for project purposes will be marketed under the existing commercial power system of the Central Valley project at rates which will return the entire costs allocated to commercial power with interest and provide necessary financial assistance to the irrigation aspects of the project.

The Auburn-Folsom South unit is fully justifiable with tangible benefits exceeding costs in the ratio of 3.71 to 1 and with over 90 percent of its costs being reimbursable. As a Federal investment, the construction of the Auburn-Folsom South unit will return many times its costs to the United States through direct repayment and collections of taxes from the augmented economy which will result.

Mr. DOMINY. The Bureau of Reclamation is indeed proud to present its plan for development of the Auburn-Folsom south unit of the Central Valley project.

This is in our judgment an urgently needed and most worthy multipurpose development, which will, as Secretary Holum has just stated, operate as an integral feature of the Central Valley project, to meet the immediate and long-range requirements of water for agriculture, municipal, industrial, hydroelectric, flood control, recreation, and fish and wildlife needs.

As he has also pointed out, the plan now before you does encompass the full utilization of the Auburn site to a reservoir of 21½ million acre-feet, and with a powerplant of 240,000 kilowatts, with provision possibly to add two additional units later for peaking purposes, if that proves feasible.

The principal storage facility on the American River at this time is the Folsom Reservoir, which was built by the Corps of Engineers under the authorization of the Flood Control Act of 1944, and the American River Basin Development Act of 1949.

Nimbus, a reservoir below Folsom, serves as a reregulating facility, and will be the diversion point for the Folsom South Canal.

We are operating Folsom and Nimbus and will of course operate Auburn as an integral unit.



Auburn Dam will be a high earth-fill structure, rising about 690 feet above the existing streambed. It will be located on the north fork of American River, 2 miles southeast of Auburn, and 30 miles northeast of Sacramento, Calif.

The 63 million cubic yards of embankment required for this dam can be obtained from borrow pits in the immediate vicinity of the damsite. The site is in a narrow V-shaped canyon, and is geologically sound and adequate for a dam and reservoir of the size proposed.

A concrete-lined chute spillway will be capable of discharging 200,000 cubic feet per second of floodflows at the time that the reservoir contains a surcharge of 110,000 acre-feet. Outlet works, discharging through steel pipe in the diversion tunnel, will be capable of evacuating the flood control space or of releasing cold water as required for fish enhancement purposes.

The reservoir formed by the dam will have a total capacity of about 2,500,000 acre-feet. The active capacity of the reservoir will be 2,131,000 acre-feet, which will be used for flood control, irrigation, municipal, and industrial water, and power storage purposes.

Senator KUCHEL. What does that phrase mean, Commissioner, "active capacity"?

Mr. DOMINY. Of the 2,500,000 acre-feet capacity, the lower 369,000 acre-feet will be dead or inactive storage. The remainder may be drawn down as necessary for project use, and is therefore called active capacity. The active storage capacity for all purposes will be limited to 2,131,000 acre-feet.

At normal water surface, elevation 1,120, Auburn Reservoir will cover an area of 10,390 acres. At minimum operating water level, elevation 796, a pool of 3,250 acres would be available.

Now, it will be very seldom that we will be down at the minimum, if ever. But nevertheless, it is designed so that if we get a series of low runoff years, we might occasionally pull it down to that figure.

The entire reservoir would be contained in the rugged and essentially undeveloped canyons of the middle and north forks of the American River.

Much of the area to be acquired is in public domain. The privately owned land generally is unimproved, precipitous, or otherwise unsuitable for agricultural or domestic use. We propose to acquire a total area of about 37,500 acres for Auburn Dam and Reservoir, and to assure adequate public lands surrounding the reservoir to realize the tremendous potential of this site for recreation and fish and wildlife enhancement purposes. Of this area, about 15,000 acres are presently in public domain, and 22,500 acres are privately owned.

Several roads cross the reservoir site at present, and will have to be relocated. Bridges will be provided as necessary to carry these roads across the reservoir, and a substantial saving in transportation costs to the general public will be realized by use of these relocated facilities.

The other principal improvements within the right-of-way are telephone lines and forest service roads, primarily for fire prevention, which will be relocated as necessary at project cost.

We have here an unusual site in our fast developing West, in that we do not have a lot of highways and railroads to relocate in this reservoir.



The Auburn powerplant, of course, will be located at the foot of the dam.

The Folsom South Canal will be the main water-delivery feature of the unit. It will begin at Lake Natoma above Nimbus Dam, and will flow southward by gravity about  $67\frac{1}{2}$  miles along the east side of the San Joaquin Valley to a terminal at Lone Tree Creek, southeast of Stockton, Calif.

The canal will be concrete lined for its entire length. It will have an initial capacity of 3,500 cubic feet per second, as required to service the Folsom south area.

At a point about 24 miles south of the diversion point, a connection will be made with the Hood-Clay pump canal, a feature of the potential East Side division. From this point to the southern terminal, the Folsom South Canal will carry water for the East Side division as well as the Folsom South service area.

The capacity immediately below the Hood-Clay connection will be 7,000 cubic feet per second, and will gradually be decreased as the canal flows southerly to 5,000 cubic feet per second near the point where the East Side Canal alignment departs from the Folsom South canal.

Distribution and drainage systems to complement the Folsom South canal in providing service to the area will be required, and under the proposed authorization may be built with Federal funds or by some form of local financing, as may be determined in the future. Deep wells estimated to cost \$1,566,000 would be financed and constructed by the local interests.

The use of Folsom South Canal as a dual facility to serve the future East Side division as well as the Folsom south service area is proposed as a matter of long-range economy.

We can save, in our judgment, about \$16 million by building East Side division capacity into the Folsom South Canal in the original construction, rather than to eventually parallel it with a separate canal. This is a significant sum, and we certainly recommend that the bill authorize this development, because the East Side division is well along in its planning, is urgently needed, and we feel will definitely be a proposal before Congress in the very near future.

The Folsom-Malby area lies south of and close to the existing Folsom Dam. This area consists of a large tract of land which is not attractive for agricultural use, but due to its proximity to existing industrial development and growing suburban and urban developments, will develop rapidly if an adequate water supply is made available.

One of the features of the proposed Auburn-Folsom south unit is a pumping plant on the shore of Folsom Lake, with an aqueduct, and a terminal reservoir to provide water for this purpose.

About 25,000 acre-feet of water annually would be conveyed southerly through a concrete pipeline extending about 10 miles to the County Line Reservoir on Deer Creek, a tributary of the Cosumnes River.

County Line Reservoir, so called because it will be astride the boundary between Sacramento and El Dorado Counties, will be formed by an earthfill dam about 80 feet high, with a crest length



of 650 feet. It will have a gross capacity of 40,000 acre-feet, and an active capacity of 25,000 acre-feet.

The reservoir will form a lake of about 1,660 acres at maximum and normal water elevation 445. A minimum pool of 60 acres will be available at elevation 390.

A second pumping plant at this reservoir will deliver water to the distribution system to serve some 12,000 acres of land with domestic and industrial water supplies. The reservoir will also provide a measure of flood protection for lands along Deer Creek, and will be attractive for both recreation use and fish and wildlife management.

The Foresthill Divide development will be located on the divide between the north and middle forks of American River. The natural water supplies for this area are very limited, and the town of Foresthill and surrounding lands have reached the practical limit of development, because of the shortage of water.

The main feature of the Foresthill development is the Sugar Pine Dam and Reservoir on North Shirttail Canyon Creek, a tributary of the north fork of the American River.

An earthfill dam about 200 feet high, with a crest length of 850 feet, at this site would create a reservoir with a total capacity of 16,500 acre-feet, of which 15,400 acre-feet would be active storage capacity.

The lake formed by this dam would have a maximum surface area of 280 acres at elevation 3,668, and a minimum surface area of 45 acres at elevation 3,560. A pressure pipe conduit from Sugar Pine Reservoir would deliver 4,400 acre-feet annually 13.7 miles southerly to the town of Foresthill, where the water would be used for municipal supply and for irrigation of some 1,340 acres of irrigable land.

The total estimated cost of the Auburn-Folsom South unit is as follows:

|                                            |               |
|--------------------------------------------|---------------|
| Auburn Dam and Reservoir.....              | \$231,312,000 |
| Auburn powerplant.....                     | 25,233,000    |
| Switchyard and transmission.....           | 13,866,000    |
| Operating facilities.....                  | 750,000       |
| Fish and wildlife mitigation lands.....    | 141,000       |
| Recreation lands and basic facilities..... | 10,803,000    |
| Folsom South area.....                     | 86,086,000    |
| Foresthill Divide area.....                | 7,523,000     |
| Folsom-Malby area.....                     | 11,916,000    |
| East Side canal enlargement.....           | 23,540,000    |
| Total.....                                 | 411,170,000   |

A comparison of the benefits to these costs results in a very fine ratio of 3.7 to 1.

In my full statement, we give you a complete breakdown as to how that is arrived at.

Now, as to the allocation of these costs, \$363,200,000 of the \$411 million total is reimbursable, a good bit of it with interest.

Irrigation is allocated \$169,880,000 which will be repaid, in accordance with reclamation law, without interest. The municipal and industrial water supply allocation is \$27,355,000; plus interest during construction, \$2,091,000, all of which will be reimbursed with interest.

Power is allocated \$134,341,000, with interest during construction of \$12,012,000, also to be repaid with interest.



A portion of the recreation and fish and wildlife enhancement allocation is reimbursable, \$16,222,000, with interest during construction on that amount of \$1,299,000.

The nonreimbursables are: Flood control, \$9,691,000; fish mitigation, \$141,000; recreation and fish enhancement, \$30 million; for a total nonreimbursable of \$39,832,000.

Now, the Auburn-Folsom south unit, since it is an integral part of the Central Valley project, has been analyzed for financial feasibility as an increment to the Central Valley project. All reimbursable costs, including the Auburn-Folsom south unit, can be repaid within 50 years of the date when the final construction feature is completed. And this is estimated to be in the year 2022.

On that date, all reimbursable costs would have been repaid to the United States, with over \$300 million in interest payments on the power, municipal water, and reimbursable recreation and fish and wildlife aspects, and we would have a surplus of \$450 million available to assist in the development of additional increments of the Central Valley project.

Water service provided by the unit will be made available at the Folsom South service area at \$2.75 per acre-foot, canalside, for irrigation water, and \$14 per acre-foot, canalside, for municipal and industrial water.

In the Folsom-Malby area, municipal and industrial water service will be provided at \$32 per acre-foot. Water service in the Forest-hill area will be made available at \$2.50 per acre-foot for irrigation water, and \$85 per acre-foot for municipal and industrial water.

Senator KUCHEL. Is that reasonable, Commissioner?

Mr. DOMINY. Well, it is much higher than many other municipalities are paying for Central Valley project water. These rates have been arrived at under our standard procedures of payment ability and costs, that we have applied to the various Central Valley units as they come into authorization and construction.

We are satisfied that the rates are well within the ability of the lands, and the municipal users, to repay, and still receive great economic benefit from having the water available.

Reimbursable recreation and fish and wildlife enhancement costs will be repaid from power and municipal water revenues, or from some source of revenues associated with recreation or fish and wildlife, such as user fees.

The power development at Auburn powerplant that is not utilized for pumping of irrigation water for project purposes will be marketed under the existing commercial power system of the Central Valley project at rates which will return the entire costs allocated to commercial power with interest, and provide necessary financial assistance to the irrigation aspects of the project.

It can be demonstrated that the benefits directly attributable to the addition of the Auburn-Folsom south unit to the Central Valley project will be substantially in excess of the reimbursable costs of that unit, and therefore that the unit will make a definite contribution to the economic justification of the Central Valley project.

Now, incidentally, as the San Luis unit comes on the line, the power that is needed for pumping there, as well as for other corollary developments, will make it necessary to divert some 360,000 kilowatts of



firm capacity from sale to commercial power and to municipalities, into pumping.

Auburn will replace about 140,000 kilowatts of that power. There will still be need for additional power in order to keep our customers supplied with the power that we are now supplying under the Central Valley project.

I think that concludes my statement.

Senator Moss. Will the Folsom South Canal be gravity all the way down the length of the canal?

Mr. DOMINY. Yes, sir, except for some pumping to lands which are above the canal.

Senator Moss. But to take it out of that East Side Canal would require pumping. Is that right? As it gets near the end of the Folsom South?

Mr. DOMINY. Mr. Pafford, will you explain the connection between the two?

Mr. PAFFORD. When the East Side project comes along, the proposal is to take water from the Sacramento Valley and pump it and get it over to the Folsom South Canal. But that is part of a future development.

Senator Moss. But what about the East Side Canal, down at the bottom of the map, there? Does that have to be pumped out?

Mr. PAFFORD. It will flow by gravity nearly to the end of the map. Near Littlejohns Creek there will have to be pumping to gain elevation. As the canal goes on south, the water is going the opposite direction from the slope of the land in the valley.

Senator Moss. This cost per acre-foot is very high in both the Foresthill and the Folsom-Malby development. The explanation for that is that the water is going to be sold for domestic and industrial use at a very much higher price? Is that it?

Mr. DOMINY. Yes. Of course, that which is used for irrigation would be sold at irrigation rates.

But it is our judgment, Mr. Chairman, that as these two areas develop, very quickly all the water supply will be used in suburban-urban uses at the higher rate.

Senator Moss. Do you have a rough figure now of just how much of this water will go into industrial and domestic use, as against irrigation?

Mr. DOMINY. It is relatively a small portion of it in those two units that are earmarked for irrigation.

Senator BURDICK. I believe the hearings last year showed about 1,300 acres would be irrigated.

Mr. HOLUM. That is right.

Senator Moss. Does that still remain the same for this?

Mr. HOLUM. Yes, sir; it does, and all the water for the Malby unit is municipal and industrial.

Senator Moss. Do you have any questions, Senator Kuchel?

Senator KUCHEL. Yes.

First of all, I think both of these statements are excellent, and they are helpful additions to the hearings which we had in the last Congress, and I thank you each for them.

With respect to the last question by the chairman, I take it that the inclusion of both Foresthill and Folsom-Malby is because these



two areas otherwise would be precluded from any development, and would be denied any opportunity to participate in a water project that they live next door to.

Mr. DOMINY. This is substantially the case. Here are two very desirable suburban residential developments, fairly close to a tremendously expanding area of the Central Valley. And if we were not to provide for water supply for them from this project, the ground water and other resources available to them just would not permit anywhere near the kind of expansion that is available and suitable to have.

And it would be of tremendous advantage to the general community to be able to develop these areas, as residential property, primarily.

Mr. HOLUM. I would like to say in addition to that that we feel it is our responsibility in planning these water resource development projects to consider the total need of the area, and the total opportunity, and certainly to fail to provide for the economic development of this Foresthill Divide area and the Folsom-Malby area would overlook an opportunity for economic development for the region and for the country, and we think it is proper that they be included.

Senator Moss. May I interrupt?

Is not another factor that Foresthill is in the county of origin of the water, and under California law, of course, county of origin has some priority?

Mr. HOLUM. This is the area that produces the water.

Senator KUCHEL. It is true, too, Commissioner, as you said in your statement, that the service area contemplated by the bill before us would include that service by the canal to extend some 67½ miles south.

Mr. DOMINY. Yes, sir.

Senator KUCHEL. And is it not true that eventually there is contemplated a further delivery of water south through San Joaquin Valley on the east side as far south as Kern County?

Mr. DOMINY. Yes. That would be part of the east side division, that is well along in our planning now.

Senator KUCHEL. May we go over the recommended amendments by the Department, commencing on page 6 of the letter from the Department to the chairman of the committee?

The first amendment is simply a technical one.

The second amendment suggests a rewriting of section 3.

Could you summarize what the intention of the language change is? Is there any substantive change, or is this simply for clarification?

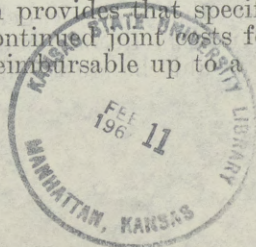
Mr. HOLUM. No, Senator; there are substantive changes in the proposed amendment to section 3.

Senator KUCHEL. Would you describe them, please?

Mr. HOLUM. The proposed amendment to section 3 will bring the Auburn-Folsom south authorization into conformity with the draft legislation for recreation that has been submitted to the Congress.

Senator KUCHEL. As you outlined in your statement earlier?

Mr. HOLUM. Right. The section provides that specific costs will be nonreimbursable and that the continued joint costs for recreation and fish and wildlife will be nonreimbursable up to a limit. Joint





costs over the limit are reimbursable with interest. It will also provide for the acquisition of necessary lands for development.

Senator KUCHEL. Are there any other changes proposed in this area?

Mr. HOLUM. Not that I recal. The big substantive change is the change that will make \$18 million as the joint cost nonreimbursable.

Senator KUCHEL. You are talking here of nonreimbursable?

Mr. HOLUM. Nonreimbursable.

Senator MOSS. Is there not \$30 million that is nonreimbursable?

Mr. HOLUM. That is right, Mr. Chairman. A total of \$30 million is nonreimbursable. Approximately \$12 million of this is specific cost for recreation. The acquisition of lands and the improvement of those lands, with basic facilities.

Senator KUCHEL. What the Department has recommended in substantive general legislation which has been introduced in the House as H.R. 9032 is a scale or a pattern under which a slide rule would be available with respect to costs allocable to recreation in any given project, depending on its total cost?

Mr. HOLUM. That is correct.

Senator KUCHEL. And my recollection, here, is that from time to time this committee has approved reclamation projects in which the percentage allocated as nonreimbursable due to fish and wildlife and recreation has been considerably higher than what we have in this bill, and yet, nevertheless, the committee has recommended it, and the bill has gone on to become law.

I think one of the projects in Oklahoma, for example, had a considerably higher percentage allocable to fish and wildlife and recreation.

Mr. HOLUM. That is right, Senator. The House committee has given a considerable amount of attention to this problem, as a result of the President's policies that have become Senate Document 97, and in April, I believe it was, they asked us to recommend to the Congress uniform practices, standards, for the allocation and treatment of all multipurpose water resource development projects, whether built by the Bureau of Reclamation or the Corps of Army Engineers.

As for the other part of your question, as to whether or not there have been projects with higher amounts allocated to recreation on a nonreimbursable basis: There have been very few reclamation projects with nonreimbursable allocations for recreation. However, this bill combines the benefits to fish and wildlife and recreation, and there certainly have been other projects where the percentage allocated to fish and wildlife benefits on a nonreimbursable basis has been substantially higher than the nonreimbursable amount in Auburn for the combined purposes.

Senator KUCHEL. Thank you.

Your suggested amendment No. 3 is to bring County Line Dam as well as Auburn Dam under the provisions that require operation for flood control in accordance with the regulations of the Secretary of the Army, and to that extent would be technical in nature. Is that not true?

Mr. HOLUM. Just a technical change, as I understand it.

Senator KUCHEL. Recommendation No. 4, or proposed amendment No. 4, would change the figure authorized for expenditure on



the project from \$411 to \$425 million, to allow for an appropriation authorization sufficient to provide for the necessary foundations and the penstock which would be installed for the expansion of the powerplant, if found appropriate, on the basis of postauthorization studies.

Is that in connection with the potential development of a larger production of hydroelectric energy at the powerplant?

Mr. HOLUM. Senator, this is a very important amendment, and I think it is good that specific attention is being called to it.

The \$411 million authorization, as originally included in the bill, would provide for a powerplant of 240 megawatts capacity. We think it highly desirable that studies be continued to see if it would not be desirable for the economy of the whole region that we make some provision now in the form of penstocks and other equipment for an eventual powerplant of 400 megawatts of capacity, because hydroelectric power is becoming more and more valuable in the industry for peaking purposes.

We consider this a very important amendment, and hope the committee will accept it.

Senator KUCHEL. Thank you.

And the last amendment suggests different language to accomplish what I take is the same purpose for guidelines to the Department in allocating water.

I have no further questions. We also have available last year's printed hearings, Mr. Chairman.

I am trying to anticipate what questions might be raised in the full committee, although I must say I think they can be answered on the basis of our hearings today and yesterday, and in the last Congress, when this committee did unanimously approve the project.

Is there any additional information which might be offered by you, Mr. Secretary?

Or you, Commissioner?

Mr. HOLUM. If I were to sum up the situation as we see it, Senator, I think the hearings that were held over a year ago are pertinent, and the record stands.

We have improved the project. We have increased the size of the reservoir from a million to two and a half million acre-feet of capacity.

I think that this is completely in accord with the wishes of the Congress, and with the most recent criteria for comprehensive water resources planning and management, to develop these resources to the fullest.

While we have increased the total cost of the project, it is significant that the benefit-cost ratio has also improved, and that the larger project is a better project on that basis than the smaller project that the committee considered over a year ago.

The benefit-cost ratios are not the only things that the Congress has to consider, I am sure, when authorizing multipurpose water resource development projects. And I doubt, with water resource development along as far as it is, we will find many more projects that have as high a benefit-cost ratio as this one. It is an unusual opportunity in 1963 to authorize a project with a benefit-cost ratio of 3.7 to 1.

Senator JORDAN. This sounds to me like a very fine multipurpose project. I was not here last year, when the former plan was presented,



and my questions have to do with that change enlarging the project from what it was a year ago.

Is this the full resource development, now? Would you say this is complete utilization of the resource?

Mr. DOMINY. Yes, sir.

I would like to say just a word, there, because the Bureau of Reclamation reported first on the million acre-foot reservoir project.

We were studying the enlargement at the same time, and you can well imagine, sir, that those who want to get this project underway wanted to try to get it authorized last session. At that time the million acre-foot project was the only one that we had final engineering and economic data on, so we wrapped up a report and presented it, because that was also a feasible project.

But we continued our investigations, and when they were completed, we found that the 2½-million-acre-foot plan was even more feasible, and would utilize this very nice site to its full potential.

And in light of the type of policies that Secretary Holum has told you about this morning, we certainly favored the enlarged project. And as the people in the area to be benefited observed the advantages of the larger one, they joined in asking for further consideration on the larger project, rather than to go ahead on the 1 million acre-foot project.

Senator JORDAN. I think at the time you put in the research on the larger project, it certainly demonstrated itself. To foreclose the chance that you will be coming back a year from now saying, "We need a 4-million-acre project, and it would be much better than the 2½-million-acre project we talked about last year"—

Mr. DOMINY. I can assure you we are now utilizing the full water supplies above the Folsom Reservoir, and utilizing the full potential of the site.

Senator JORDAN. That assurance I wanted from you, and I think the record should show that.

What is the storage capacity of the Folsom Reservoir?

Mr. PAFFORD. 1,010,000 acre-feet, Senator.

Senator JORDAN. And plus the 2½ million in Auburn, in the proposed Auburn, it would give you a 3½ million acre-feet of storage there on the American River.

You would reregulate that, I assume, from the Nimbus Dam and powerplant.

Mr. HOLUM. That is right.

Senator JORDAN. What is the amount of water that is usually applied in that area for irrigation purposes throughout the irrigation season a year? How many acre-feet does it take per acre?

Mr. DOMINY. This is an area that gets very limited rainfall, as you know, running in the range of 6 to 12 inches in different sections of the valley, and of course we will not be furnishing a full water supply for most of the lands, since they already have a partial water supply.

But we would be supplying all the way from one to six acre-feet per acre to various users, depending on the crops being grown and whether they need a supplemental or a full supply.

Senator JORDAN. In all instances it would be a supplemental supply? There would be very few acres of new land brought in?

Mr. DOMINY. There would be some new land brought into this project. It is roughly about half of each.



Senator JORDAN. Half new land and half supplemental?

Mr. DOMINY. That is right.

Senator JORDAN. Well, can you give me a figure of the amount of water that is regarded as necessary to apply to land in that region, for new land?

Mr. PAFFORD. Yes. A great deal of that new land will go into irrigated pasture, which will require about 4 acre-feet a year. Otherwise, it will vary downward or upward. But much of the land will be  $3\frac{1}{2}$  to 4 acre-feet a year.

(The following tabulation was subsequently provided to clarify this discussion:)

*Crop projection and farm delivery requirements, Folsom south area*

| Land use (irrigated crops)             | Net area in cultivation (irrigated) | Percentage in each irrigated crop | Farm delivery requirement |                  |
|----------------------------------------|-------------------------------------|-----------------------------------|---------------------------|------------------|
|                                        |                                     |                                   | Per acre                  | Per season       |
|                                        | <i>Acres</i>                        | <i>Percent</i>                    | <i>Acre-feet</i>          | <i>Acre-feet</i> |
| Pasture.....                           | 160,250                             | 44.2                              | 4.4                       | 705,100          |
| Alfalfa.....                           | 33,320                              | 9.2                               | 3.4                       | 113,300          |
| Rice.....                              | 12,390                              | 3.4                               | 7.0                       | 86,700           |
| Sugarbeets.....                        | 13,690                              | 3.8                               | 2.4                       | 32,900           |
| Beans.....                             | 16,350                              | 5.5                               | 1.4                       | 22,900           |
| Tomatoes.....                          | 21,240                              | 5.9                               | 2.7                       | 57,400           |
| Truck.....                             | 10,350                              | 2.8                               | 2.1                       | 21,700           |
| Miscellaneous field <sup>1</sup> ..... | 29,980                              | 8.3                               | 2.5                       | 75,000           |
| Deciduous orchard.....                 | 25,580                              | 7.0                               | 2.3                       | 58,800           |
| Grapes.....                            | 39,550                              | 10.9                              | 1.7                       | 67,200           |
| Double crop <sup>2</sup> .....         | 3,900                               |                                   | 1.7                       | 16,800           |
| Subtotal <sup>4</sup> .....            | 362,700                             | 100.0                             |                           | 1,257,800        |
| Adjustment <sup>5</sup> .....          |                                     |                                   |                           | 14,400           |
| Total <sup>6</sup> .....               |                                     |                                   |                           | 1,243,400        |

<sup>1</sup> Corn, milo, sudan grass, etc.

<sup>2</sup> Beans, milo or sudan grass following grain or truck crop.

<sup>3</sup> Acreage not included in total of 362,700.

<sup>4</sup> In addition to the irrigated crops the projection includes the following nonirrigated crops: grain and hay, native dry pasture, fallow or idle lands, 35,400 acres; which, with the 362,700 acres of irrigated crops, make up the total of 398,100 productive acres.

<sup>5</sup> The detailed computations of the water requirement for a portion of the area were based on per acre water requirements slightly different than shown on the above table. Consequently, an adjustment equal to about 1 percent was made to conform this summary to the water supply quantities used in project development studies.

NOTE.—Weighted mean farm delivery requirement, 3.4 acre-feet per acre.

Senator JORDAN. What is the water supply of the American River? How much of it are we utilizing in these storage reservoirs? What is the annual runoff of the service basin?

Mr. PAFFORD. Senator, the average annual runoff of the American River into Folsom is 2,700,000 acre-feet a year. In dry years it runs as low as 500,000 acre-feet, or it has historically; of course, in flood years much higher. There has been a year of 5 million acre-feet.

This particular development would divert from Nimbus Dam 713,000 acre-feet a year for agriculture and another 139,000 acre-feet a year for municipal and industrial purposes—850,000 acre-feet.

The city of Sacramento has a contract for a very substantial water supply, enough to run it for many decades ahead. There are developments coming in in the upper basin. For instance, the Placer County Water Agency that Secretary Holum mentioned will be diverting a total of 237,000 acre-feet.

I would say the total use of the water would be very substantially over a million acre-feet a year, which is quite good when you consider



that the minimum flow is a half a million acre-feet per year and it has to be firmed up by these reservoirs.

Senator JORDAN. Yes. And in a sense, it is part of this whole overstorage.

It seems to me like a very fine multipurpose project, Mr. Chairman. I wonder why it has been dormant so long.

Mr. DOMINY. Well, the only thing we can say to that is that we just cannot build them all at once. And we had taken care of most of the needs of this growing area with the Friant-Kern Canal and other structures. And this one is the next logical one to keep up with the growing demand.

Senator JORDAN. And will this give you complete flood control of the floodwaters to protect the areas of Sacramento and downstream points?

Mr. PAFFORD. This would give a very high degree of flood control. These projects, coupled together with the levee system in the Sacramento area, will give one of the higher degrees of protection that is provided anywhere in this country. Of course, no area can be absolutely floodproof, but this will be one of the higher degrees of flood protection to be provided in the country.

Senator JORDAN. Thank you.

Senator BURDICK. Last year, our colleague, Senator Allott, asked some very pertinent questions about the Foresthill development project. I know it is a small amount, but I think some more explanation should be given in the record.

Now, I notice the price tag is \$7 million, and I believe there are 1,300 acres of irrigated land. With \$2½ million allocated to municipal-industrial service, that would leave a little over \$4 million for irrigation.

The irrigators will pay a little over 6 percent, and the power revenues of the Central Valley will pay 93.6 percent. Is that correct?

Mr. HOLUM. That is correct.

Senator BURDICK. Is that a feasible project?

Mr. HOLUM. Yes, sir; I think it is. It meets the tests we apply to such projects all over the country.

This will require a high level of assistance, it is true.

Senator BURDICK. I have no objection, of course. I want the record to show this is feasible.

Mr. HOLUM. I am sure that is true, Senator.

Mr. DOMINY. Furthermore, it is to be expected, realistically, that this irrigated land will quite rapidly move over into the urban and suburban category, too.

Senator BURDICK. How rapidly?

Mr. DOMINY. Well, it is anyone's estimate; but at the rate California is growing in population, and at the rate they are moving out into these foothill areas, particularly when this reservoir is built, as a very beautiful lake, and with the new road systems that are constantly being expanded, I personally think it will go away from agriculture and into housing quite rapidly.

As it does, our contract will adjust, and the rate will go up to the municipal and industrial rate.

Senator BURDICK. If it goes up rapidly, why do we have the development, then, the irrigation development?



Mr. DOMINY. Well, this is a desirable way to isolate the water supply and put it to work. And that same water supply would then be used in the urban development as it develops.

This is not a departure, at all, from many other areas. For instance, on the Contra Costa Canal, this is exactly what we did. We provided irrigation water in quite large quantities in the early years of the contract, and considerable municipal-industrial water, with provisions in the contract that as the land shifted, the rate would shift to the new use, which has worked very well.

Senator BURDICK. In other words, as an acre of land would shift out irrigation into industrial and municipal development, it would carry a different charge?

Mr. DOMINY. That is right. We write that right in the contract.

Senator BURDICK. And there would not be any loss in this irrigation contract?

Mr. DOMINY. No, sir. It would all be recovered at the higher rate figure.

Senator BURDICK. Thank you.

Mr. HOLUM. Senator Burdick, I think you are entitled to a more complete answer than we have given you up to this moment. You asked what the benefit-cost ratios were on these two small units. You have it for the overall Auburn-Folsom south unit, which is 3.7 to 1. The two smaller areas also have favorable ratios.

On Malby, it is 2.1 to 1, and on Foresthill Divide, 1.9 to 1.

That is just so that the record will be complete.

Senator BURDICK. Thank you.

Senator Moss. Thank you.

If there are no more questions or comments, if there is nothing more that needs to be offered, we will close the hearing.

The record will remain open for 10 days for any additional documents that are to be submitted.

I have a number of statements, telegrams, and communications that will be placed in the record.

(The communications referred to follow:)

STATEMENT OF AMERICAN PUBLIC POWER ASSOCIATION IN SUPPORT OF AUTHORIZATION OF THE AUBURN-FOLSOM SOUTH PROJECT, NOVEMBER 19, 1963

American Public Power Association is a national trade organization representing more than 1,200 local publicly owned electric utilities, mainly municipal systems, in 45 States and Puerto Rico. The association's offices are at 919 18th Street NW., Washington, D.C.

Approximately 30 percent of California's populace is served by consumer-owned electric systems, including the largest local publicly owned utility in the United States—the department of water and power in Los Angeles. These systems in California derive their power from numerous sources, including the Bureau of Reclamation's Central Valley project, Hoover Dam, their own generation, and interconnection with privately owned utilities.

Existence of California's publicly owned electric utilities has served as a yardstick in keeping private utility rates equitable, and has contributed greatly to the economic and population growth of that State.

Not only do these publicly owned systems serve urban and industrial loads, but also a number of them serve primarily agricultural loads. In fact, several were organized initially and primarily to provide water and power for irrigation.

Therefore, the interest of American Public Power Association in the Auburn-Folsom south project is not merely the power that would be generated at that project, but includes also the irrigation potential and the vast other conservation and public purposes served.



The plan for Auburn-Folsom south represents truly comprehensive development of a natural resource. The water which will be impounded by this immense project will irrigate land, generate electricity, provide greater recreational facilities, and serve the domestic water needs of the people in its area, and control of the river, from which the above benefits would be derived, will mean less loss from the rampaging waters which flow annually into the Central Valley following the spring thaw.

Auburn is primarily an irrigation project. The water that fills Auburn's huge reservoir will make available 365,000 acre-feet of water per year for irrigation. This irrigation will not expand production of surplus commodities but rather will increase the production of those many crops indigenous to the California climate, primarily unsupported and unsubsidized food and fiber.

As an addition to California's fast growing recreational demands, Auburn will maintain the Folsom Reservoir at a desirable level during the tourist season, and thus greatly enhance its value. Auburn itself, if the necessary investments in access are made, will ultimately provide a great deal of recreational value to the people of northern California.

The need for water is an ever-present problem in the arid Southwest; California has embarked on a billion dollar program to carry water to the population centers below the Tehachapi Mountains. It is also a pressing problem in the area which will be served by Auburn. Municipal and industrial demands are spiraling, and Auburn is designed to offset a share of these demands.

The paying partner to the project—power—will yield 613 million kilowatt-hours a year. Revenues from sale of these kilowatt-hours will provide \$134,341,000 to the Federal Treasury as power's share of the project's cost. These kilowatt-hours will pay \$12,012,000 back into the Treasury to cover power's interest during construction. And these kilowatt-hours will pay \$56,069,000 into the Federal Treasury to help keep the price of water at a level the family farmer in California can afford to pay. Power then will pay back to the Federal Government over a 50-year period nearly 50 percent, or \$202,422,000, of the total project costs—50 percent of a project which provides 365,000 acre-feet of water per year to California farmers, an estimated \$375,000 a year saving from floods, millions of dollars in recreation value, and a valuable supply of water for cities and industries.<sup>1</sup>

And beyond this, long after the Auburn Dam has been fully amortized power will continue to provide revenues to the Federal Government and other benefits for the Nation.

The supplemental evaluation of the Auburn-Folsom south project provides for considerably more comprehensive development of the American River. Not only is the storage capacity of the project more than doubled—1 million to 2.5 million acre feet—but also the potential power development is nearly tripled. Whereas original plans called for a total power installation of 155,000 kilowatts, the project now provides for an initial installation of 240,000 kilowatts with an ultimate capacity of 400,000 kilowatts.

California, the Nation's fastest growing State, has an ever-increasing demand for electricity. Not only is this demand going up because of the population explosion but also higher per-customer usage in promoting greater overall consumption. The experience of the municipal electric utilities in northern California has more than adequately proved that unit costs decrease with an increase in consumption, thus resulting in an even greater demand. If future demands are to be met, projects like Auburn must be built.

The initial installation of 240,000 kilowatts of capacity would be well suited to the market for Auburn power. The municipal electric systems and irrigation districts need an increasing supply of power. At the same time, the "energy bank" arrangement with the Pacific Gas Electric Co. makes it possible for the nongenerating public agencies to purchase firm power from the Bureau of Reclamation while P.G. & E. uses the low-cost hydro to replace more expensive power to meet its ever-increasing peaking demands. In this way preference customers, private power, and the Government profit.

With the increasing size of individual thermal electric units it becomes uneconomic to handle peaking loads with these units. The large-sized steam units can only be operated most efficiently when they are kept at almost constant load close to their maximum capability. In view of this trend in gen-

<sup>1</sup> These figures are based on the supplemental report released by the Bureau of Reclamation and are considered by APPA to be extremely conservative as they are based on the present contract with P.G. & E. and do not consider future modifications of the contract to credit increasing value of the hydropower.



erating unit design, it becomes increasingly important to have units available that are able to carry peaks, i.e., able to pick up load quickly and operate efficiently over a wide range of varying loads. This has always been a typical characteristic of hydroelectric units. Hydro is becoming increasing valuable as a means of carrying the peakloads while the large steam generators operate efficiently on base load. Although it is possible to design steam units for peaking, it is extremely costly to do so. On the other hand, changing a hydro unit from base load to peakload design is only a matter of placing additional penstocks in the dam to permit the installation of additional generating capacity as it is required.

Because of the peaking power problem, and because of the growth of the California market for power, the Bureau of Reclamation has wisely made provision for eventual expansion of the Auburn plant to 400,000 kilowatts. Although this will require an initial extra investment of \$13.5 million, substantially greater costs will be averted when the additional energy is needed later. The proposed additional \$13.5 million is for construction of the necessary appurtenances for future generator installation. When the demand for peaking power reaches the point that installation of an additional 160,000 kilowatts is warranted, the substantially higher costs of facilities installed as an "afterthought" will be averted. Only the generators will have to be purchased and installed.

The interest in this project by the American Public Power Association was manifested at its most recent convention where the attached resolution was passed unanimously.

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STATEMENT OF FRANK J. PAOLI, CHAIRMAN OF THE BOARD OF DIRECTORS OF THE PLACER COUNTY WATER AGENCY OF THE STATE OF CALIFORNIA, SUPPLEMENTING TESTIMONY ON S. 351, NOVEMBER 18 AND 19, 1963

Mr. Chairman and members of the committee, on November 18, 1963, Mr. William S. Briner of our board of directors appeared before your committee in support of the Auburn Dam-Folsom South Canal project and urged the passage of S. 351. In his testimony, Mr. Briner expressed concern about the price for municipal and industrial water for the Foresthill Divide area in Placer County which was quoted by the Commissioner of Reclamation in his report entitled "A Supplemental Evaluation of the Auburn-Folsom South Unit of the Central Valley Project, California," dated April 5, 1963. This price was \$85 per acre-foot. As Mr. Briner pointed out in his testimony, we were informed that the Department of the Interior was reviewing the matter. At the time Mr. Briner testified, he was not aware of the results of any such review by the Department of the Interior or the Commissioner of Reclamation.

Subsequent to Mr. Briner's testimony, the Commissioner of Reclamation, Mr. Floyd Dominy, appeared before your committee. In his testimony, Mr. Dominy stated that he felt \$85 per acre-foot was a proper price for municipal and industrial water for the Foresthill Divide area.

The Placer County Water Agency vigorously disagrees with this statement of Mr. Dominy and believes that a reduction of the price of \$85 per acre-foot to a more equitable figure is justified by the following considerations.

First, the manner in which the \$85 price has been calculated for the Foresthill Divide area is not consistent with the existing pricing policies for the Central Valley project. The price for Central Valley project municipal and industrial water from the Sly Park participating unit of the Folsom Dam project as set forth in a 40-year contract with the El Dorado Irrigation District is \$10 per acre-foot for the first 2 years of the contract, \$15 per acre-foot for the next 3 years and \$17.50 for the remaining term of the contract. We understand that this price was arrived at by financially integrating municipal and industrial water supply features of this participating unit into the financial structure of the total Central Valley project. We advocate that this method be used for calculating the price of Foresthill Divide municipal and industrial water. We believe it is inconsistent and inequitable to use one method of calculating a price for water from one participating unit and another method for a different participating unit. Both the Sly Park participating unit and the proposed Foresthill Divide unit are located in the same general area of California.

Second, the Foresthill Divide area cannot economically support a price of \$85 for municipal and industrial water. This area is a small mountainous community which has the potential to grow as a retirement center and an area of small agricultural development and limited industry. This growth can only occur if there is a reasonably economical source of municipal and industrial water.



The geographic location and natural resources of this area will not permit this growth to occur to its full potential in an orderly manner if municipal and industrial water cannot be provided at less than \$85 per acre-foot.

We respectfully urge that your committee provide in the authorization of the Auburn Dam-Folsom South Canal project for the financial integration of the municipal and industrial water supply features of the smaller participating units, such as the Foresthill Divide unit, into the financial structure of the total Central Valley project, or at least the major units thereof, with the rates for such municipal and industrial water established accordingly. By providing for this in the authorization act you will make it possible for the Foresthill Divide area to obtain municipal and industrial water at a price it can afford to pay and to share in the benefits of this worthy project. You will also be providing for consistency in Central Valley project pricing policies regarding participating units and for equal treatment to the residents of Foresthill.

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PREPARED STATEMENT OF FRANCIS M. GREY, PRESIDENT, PLACER COUNTY, CALIF.,  
CHAMBER OF COMMERCE

We respectfully submit to you, Mr. Chairman and members of the committee, that the Placer County Chamber of Commerce endorses the testimony of the city of Auburn and other governmental agencies of Placer County favoring the Auburn-Folsom south unit of the California Central Valley project. The Placer County Chamber of Commerce has given strong support to all water development projects in our area.

We particularly wish to emphasize in this testimony that recreation is a major industry in Placer County. A recent study estimates that the nonresident recreationists are, and will be, approximately 80 percent of the total visitor day activities in the county. This same study indicates a visitor day figure for 1963 of approximately 3 million, and by 1985 the number of visitor-days will reach 18 million in Placer County.

To further emphasize the importance of the recreation factor, studies made in connection with the California outdoor recreation plan revealed that over 60 percent of the recreation tabulated centered about water sports. Boaters, in particular, have made extensive use of the reservoirs in the State where facilities are available. An excellent example of the use of water facilities is the Folsom Lake State Park. Attendance for 1962 was 2,516,521, this was an increase from 1,300,000 in 1958. It should be noted, also, that a study of the recreation potential of Folsom Lake was made by the National Park Service in March 1946 and predicted 110,600 annual visitor days.

In other studies boaters have indicated the advantages of the long, narrow type of reservoir, which would be created by the Auburn Dam, as opposed to the large, wide lakes. Narrow bodies of water do not become as rough, making it more suitable for small boats, water skiers, and swimmers. Local law enforcement officers have stated that policing a reservoir of this type to maintain safety regulations could be done much more effectively than on wide bodies of water such as Lake Tahoe or Folsom Lake which are under their jurisdiction. The recreation report on the proposed Auburn project which was prepared by the National Park Service estimated that 400,000 annual visitor-days would be spent in the area in the early postconstruction period. A recent report, completed March 1963, estimates that this facility will have 5 million visitor-days no later than 1958, providing needed facilities for optimum public use are installed.

Additional recreational facilities could be provided at the proposed Sugar Pine Reservoir on the Foresthill Divide. Forest Service officials state that there are, at least, two very desirable national forest campground sites in the area which could accommodate about 12,000 campers annually. A very small, and much less accessible, Forest Service reservoir campground in the same area with facilities for only 6 campsites is usually crowded far above its capacity with as many as 350 campers present on peak days. In addition there are private properties adjacent to the Sugar Pine site which would be suitable for development as resort and summer home areas. This could add substantially to the assessed valuation in the Foresthill Divide which is largely within the national forest.

Indications are that the population explosion in the State of California is turning northward to the Sacramento Valley. The State department of finance indicates that the population of Placer County will increase 133 percent by 1980,



reaching a figure of 134,000 by that year. This same report listed the estimated population of 19 counties in the Sacramento Valley, Placer County placing third in percentage increase by 1980. The population of these 19 counties in 1960 was 1,168,200 and it is estimated that the figure for the 19 counties will be 2,301,200 by 1980.

It could well be that these estimates on visitor-days and population projections by 1985 are low. With the opening of the Sacramento-Yolo deepwater port facility, the heavily traveled Interstate Highway 80 through Placer County and the changing of Highway 99E through the lower portion of Placer County to an Interstate Highway 5 alternate, could very well change these predictions upward. Economists are predicting that Sacramento is the most logical and practical new industrial growth area in California. If this prediction is true, and there are a number of indications that it is, it appears obvious that the present and planned recreation areas will be filled to capacity.

The Placer County Chamber of Commerce sincerely hopes that your committee will find more than sufficient evidence through the combined testimony to recommend the authorization of this project.

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CALIFORNIA BOATING COUNCIL, INC.,  
Rodeo, Calif., November 13, 1963.

Senator CLAIR ENGLE,  
Senate Office Building,  
Washington, D.C.

DEAR SENATOR ENGLE: The California Boating Council, Inc., which is a statewide, nonprofit organization representing all facets of recreational boating in California, again wish to go on record in unanimous favor of the Auburn Dam-Folsom South Canal legislation S. 351.

Our previous resolution is recorded in the publication titled "Hearings Before the Subcommittee on Irrigation and Reclamation of the Committee on Interior and Insular Affairs, U.S. Senate, 87th Congress, 2d session on S. 103."

All benefits possible to derive from the proposed project are vital not only to the people of California, but to many millions of people of the other States of the Nation. While the recreational benefits to be derived are by virtue of their intangibility classified as secondary, we believe them to actually be primary to the public health and welfare.

Our studies prove quite conclusively that many hundreds of thousands of people from out of the State of California, yearly, come to this State to use our waterways for recreational purposes. Thus, the Auburn Dam-Folsom South Canal project is not only of importance to the State of California and its people, but to the Nation as a whole.

California's history shows it constantly in need of water and in more recent years in need of new waterways for healthy recreation. The peoples demand for domestic water, power, flood control, and recreation simply cannot go unheeded, and new projects such as the one proposed in S. 351 cannot be started too soon.

We ask that this letter be made a part of your presentation to the Senate committees soon to hear S. 351, and we sincerely hope that these Senators will render their full support of the proposed project and favorable approval of the legislation.

With kindest regards.

Sincerely,

Mrs. JAN MOWER, *Managing Director.*

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CITY OF PLACERVILLE,  
Placerville, Calif., November 12, 1963.

Hon. CLAIR ENGLE,  
Senate Office Building,  
Washington, D.C.

DEAR SENATOR ENGLE: In behalf of the city council of the city of Placerville, and myself, as mayor, this is to advise you that we are in support of the legislation on the Auburn-Folsom South unit of the American River division of the Central Valley project, which will be presented to Congress the first of next week.

Very truly yours,

CHARLES R. GIBBS, *Mayor.*



120 AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT

RAISIN CITY WATER DISTRICT,  
Raisin City, Calif., November 11, 1963.

Mr. FRANK HILL,  
President, Central Valley Project, East Side Canal Water Users Association,  
Bank of America Building, Visalia, Calif.

DEAR MR. HILL: It is our understanding that the Senate and House committees soon will hold hearings on legislation for the authorization of the Auburn-Folsom south unit as the initial unit of the east side canal of the Central Valley project. This is to inform you of our interest in the proposed legislation and request you to present our views at the forthcoming hearings.

The Raisin City Water District, near Raisin City, Fresno County, includes 50,000 acres of highly productive lands devoted to the irrigated production of grapes, cotton, and general crops. Our present irrigation water supplies are coming from the ground water which is being depleted rapidly. Unless supplemental water supplies are made available in the near future, the farmers' very large investments in land development and equipment will be lost.

Our district officials have reviewed the plans of the Bureau of Reclamation for the east side division of the Central Valley project including the tentative rates for irrigation water set by the regional director. The district endorses the plans for the east side division and has applied for 190,000 acre-feet of water when available.

Accordingly, we would appreciate it if you will indicate to the committees that we support immediate authorization of the Auburn-Folsom south project as an initial feature of the east side division and urge that construction be initiated at the earliest possible date.

Very truly yours,

HERLUF FRIES, President.

NOVEMBER 11, 1963.

Mr. FRANK HILL,  
President, Central Valley Project, East Side Canal Water Users Association,  
Bank of America Building, Visalia, Calif.

DEAR MR. HILL: It is our understanding that hearings will soon be held by both the Senate and House committees on legislative to authorize the Auburn-Folsom south project as an initial unit of the east side canal unit of Central Valley project. This is to inform you of the interest of the farmers in the southern Merced County area in the Auburn-Folsom south project and to request that you present our views to the congressional committees.

Our steering committee represents an area of about 30,000 acres of productive land devote to the irrigated production of cotton, pasture, and general crops. The ground water supplies from which the irrigation water is now obtained is being depleted rapidly and the farmers' very large investments in land development and equipment are in jeopardy.

Since it is apparent to us that our only feasible source of water will be the proposed east side canal, we are forming a water district to accept and distribute water from the canal when available. Petitions for formation of our district are now complete and we expect to complete legal organization of the district early in 1964.

Our steering committee for the district has reviewed the plans of the Bureau of Reclamation for the east side division of the Central Valley project including the tentative rates for irrigation water set by the regional director. We have endorsed the plan for the east side division and indicated our district will purchase water, under the conditions set forth, as soon as possible.

Accordingly, we would appreciate it if you will indicate to the committees that we support immediate authorization of the Auburn-Folsom south project as an initial feature of the east side division and urge that construction be initiated at the earliest possible date.

Very truly yours,

HARVEY PETITT,  
Chairman, Steering Committee for Formation of Le Grand-Athlone Water District.



FRESNO, CALIF., November 18, 1963.

Senator FRANK MOSS,  
*Senate Interior and Insular Affairs Committee,*  
*Senate Office Building, Washington, D.C.:*

Orderly economic growth and progress California depends on water development, and we urge your favorable action now on S. 351, authorization Auburn-Folsom south unit Central Valley project.

CLIFTON G. HARRIS,  
*Chairman, Water Resources Committee,*  
HERBERT N. FERGUSON,  
*President, Fresno County and City Chamber of Commerce.*

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COMPTON, CALIF., November 18, 1963.

Senator FRANK MOSS,  
*Chairman, Senate Subcommittee on Reclamation,*  
*Senate Office Building, Washington, D.C.:*

California needs more arable land; urge "do pass" recommendation on Senate bill 351.

ESTHER JACKSON,  
*Legislative Chairman, West Compton Civic League.*

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LOS ANGELES, CALIF., November 18, 1963.

HON. FRANK E. MOSS,  
*Senate Subcommittee on Reclamation,*  
*Senate Office Building, Washington, D.C.:*

One hundred and twenty-six members Unitarian Fellowship for Social Justice meeting in Los Angeles, Sunday, November 17, urge favorable action on Senate bill 351, introduced by Senators Kuchel and Engle. This legislation is desirable in meeting needs of people for more agricultural production and additional electrical energy.

RON PRIESTEREACH.

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SAN FRANCISCO, CALIF., November 21, 1963.

HON. FRANK E. MOSS,  
*Chairman, Senate Interior Subcommittee,*  
*Senate Office Building, Washington, D.C.:*

Besides other benefits hundreds of unemployed boilermakers urge enactment of Senator Clair Engle's bill authorizing \$425 million Auburn Dam project.

H. L. SOLOMON,  
*President, Boilermakers Local 6.*

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LINCOLN, CALIF., November 11, 1963.

INTERIOR AND INSULAR AFFAIRS COMMITTEE,  
*U.S. Senate, Washington, D.C.*

DEAR CHAIRMAN: For several years there has been an effort on the part of groups of people who consider themselves as progressive to promote dams for irrigation purposes. These groups have no connection with agriculture or are aware of the needs of agriculture. The information offered to the Congress of the United States is drivel and should be treated as such.

California recently voted \$1¾ million to build dams, canals, etc., much to the consternation of agriculture. The better soils of the State have long been used for irrigated crops. Farmers do not wish to attempt to irrigate the lands not now under irrigation.

A group of promoters and local politicians are constantly pushing for the Federal Reclamation Bureau to construct a dam at Auburn on the American River some 15 miles upstream from the Reclamation Bureau dam at Folsom. The Fol-



som Dam was completed several years ago. No market exists for water from this dam or is likely to. The 160-acre limitation, a requirement of the Federal Bureau, is not acceptable to landowners in nonirrigated areas or marginal land. Local promoters have enlisted support from distant area promoters and politicians.

As no possibility exists for local use for Auburn and Folsom Dams water, the promoters are advocating a canal to carry the water to far-distant supposed markets. Where soils exist suitable for profitable irrigated crop production, farmers do easily form and finance districts themselves. The dam at Shasta, known as the Central Valley project of the Reclamation Bureau, completed several years ago, sells no water as yet in the Sacramento Valley, exports some water to the San Joaquin Valley.

Enclosed is a map showing details of construction of water storage facilities on the American River. This project has no market regardless of claims of the promoters. The city of Sacramento has several dams under construction on this same American River.

The landowners are hopeful Congress will appropriate no more funds for unneeded projects and should insist contracts from duly organized irrigation districts be required. The Moores are landowners on the valley floor 20 miles west of the proposed dam at Auburn and farm several thousand acres of farmland, have some 2,000 acres under irrigation, part of which is in the delta region of the Sacramento River. As the senior Moore, I have cooperated with eminent scientists of agricultural colleges, have always been a student of crops and soils. In furtherance of my studies I have, in recent years, visited the Asiatic countries, Europe, Africa, South America, Australia, and New Zealand.

Very sincerely,

R. F. MOORE.

Senator Moss. If there is anything further that is to be submitted by any of the witnesses from California, or if the Department has any supplemental information to furnish, we may put it in the record for the next 10 days.

The hearing is now adjourned.

(Whereupon, at 11:10 a.m., the subcommittee was adjourned.)



## APPENDIX

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(The following resolutions were submitted during the course of the hearings. They were ordered printed as an appendix to the printed record.)

### RESOLUTION No. 63-329 OF THE BOARD OF SUPERVISORS OF THE COUNTY OF PLACER

Whereas the Subcommittee on Irrigation and Reclamation of the U.S. Senate Committee on Interior and Insular Affairs has scheduled hearings for November 18 and 19, 1963, on S. 351 authorizing the Auburn Dam-Folsom South Canal project; and

Whereas said project will benefit the people of Placer County by providing a source of water for western Placer County, by eliminating the necessity for the Placer County Water Agency to pump its Middle Fork American River project water from the American River into western Placer County, and by providing recreational benefits to the people of Placer County and the surrounding areas: Now, therefore, be it

*Resolved* by the Board of Supervisors of the County of Placer that said board supports the Auburn Dam-Folsom South Canal project and urges the approval of S. 351.

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### RESOLUTION OF THE AUBURN AREA CHAMBER OF COMMERCE

Whereas the Secretary of the Interior on October 21, 1963, forwarded to the Congress of the United States a revised report recommending the early authorization of the Auburn Dam-Folsom South Canal unit of the Federal Central Valley project; and

Whereas this project has been before the Congress of the United States under a previous report for more than 2 years; and

Whereas the facilities to be constructed under this project are vitally needed to supply water to areas within Placer, Sacramento, El Dorado, and San Joaquin Counties; and

Whereas these facilities are necessary for the full development of the American River as part of the Federal Central Valley project and they will also provide additional much needed flood control along the lower reaches of the American River, the Sacramento River and within the Sacramento-San Joaquin Delta; and

Whereas recreation is a beneficial use of water along with irrigation, domestic power and flood control; and

Whereas the Auburn chamber and many civic-minded organizations have in the past urged early authorization of this project which is vitally needed to areas in northern and central California for the purposes of providing flood control, recreation, fish and wildlife, power, irrigation, and municipal water supplies: Now, therefore, be it

*Resolved*, That the Auburn Area Chamber of Commerce request the appropriate committees of the House of Representatives and the U.S. Senate to hold early hearings looking toward the authorization of said project; and be it further

*Resolved*, That copies of this resolution be forwarded to those public officials concerned.

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### RESOLUTION OF THE AUBURN BOAT CLUB

Whereas the Secretary of Interior, on October 21, 1963, forwarded to the Congress of the United States a revised report recommending the early authorization of the Auburn Dam-Folsom South Canal unit of the Federal Central Valley project; and



Whereas this project has been before the Congress of the United States under a previous report for more than 2 years; and

Whereas the facilities to be constructed under this project are vitally needed to supply water to areas within Placer, Sacramento, El Dorado, and San Joaquin Counties; and

Whereas these facilities are necessary for the full development of the American River as part of the Federal Central Valley project and they will also provide additional much needed flood control along the lower reaches of the American River, the Sacramento River, and within the Sacramento-San Joaquin Delta; and

Whereas recreation is a beneficial use of water along with irrigation, domestic, power, and flood control; and

Whereas the Auburn Boat Club and many civic-minded organizations have in the past urged early authorization of this project which is vitally needed to areas in northern and central California for the purposes of providing flood control, recreation, fish and wildlife, power irrigation and municipal water supplies: Now, therefore, be it

*Resolved*, That the Auburn Boat Club request the appropriate committees of the House of Representatives and the U.S. Senate to hold early hearings looking toward the authorization of said project; and be it further

*Resolved*, That copies of this resolution be forwarded to those public officials concerned.

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#### RESOLUTION OF THE AUBURN AREA RECREATION AND PARK DISTRICT

Whereas, the Secretary of Interior, on October 21, 1963, forwarded to the Congress of the United States a revised report recommending the early authorization of the Auburn Dam-Folsom South Canal unit of the Federal Central Valley project; and

Whereas this project has been before the Congress of the United States under a previous report for more than 2 years; and

Whereas the facilities to be constructed under this project are vitally needed to supply water to areas within Placer, Sacramento, El Dorado, and San Joaquin Counties; and

Whereas the facilities are necessary for the full development of the American River as part of the Federal Central Valley project and they will also provide additional much needed flood control along the lower reaches of the American River, the Sacramento River, and within the Sacramento-San Joaquin Delta; and

Whereas recreation is a beneficial use of water along with irrigation, domestic, power, and flood control; and

Whereas the recreation district and many civic-minded organizations have in the past urged early authorization of this project which is vitally needed to areas in northern and central California for the purposes of providing flood control, recreation, fish and wildlife, power irrigation, and municipal water supplies: Now, therefore, be it

*Resolved*, That the Auburn Area Recreation and Park District request the appropriate committees of the House of Representatives and the U.S. Senate to hold early hearings looking toward the authorization of said project; and be it further

*Resolved*, That copies of this resolution be forwarded to those public officials concerned.

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#### RESOLUTION NO. 42 OF FORESTHILL PUBLIC UTILITY DISTRICT

Whereas the Foresthill Public Utility District is a body politic, duly organized and existing under and by virtue of the laws of the State of California, including among its purposes, the acquisition and operation of facilities for the supply of water to residents and inhabitant of the district; and

Whereas said district and its residents, inhabitants, and customers are faced with critical water shortage, typical of the Foresthill Divide which water shortage can be alleviated by the construction of the Sugar Pine Reservoir as a part of the Auburn Dam project; and

Whereas J. E. Little, county engineer of Placer County and a duly registered civil engineer, is knowledgeable of the critical water needs of the Foresthill



Divide and in particular, the Foresthill Public Utility District and the said J. E. Little has been selected to attend hearings on the Auburn Dam project in Washington, D.C.; and

Whereas the board of directors of said Foresthill Public Utility District deem it advisable and necessary that they be represented at such hearings and that someone be authorized to speak on their behalf: Now, therefore, be it

*Resolved by the Board of Directors of Foresthill Public Utility District as follows:*

1. That J. E. Little is hereby appointed and authorized to represent and speak on behalf of the Foresthill Public Utility District and to present any and all factual data and information needed or desired in reference to the critical needs of the Foresthill Public Utility District and the Foresthill Divide to increase the availability of water to said district and its customers and inhabitants;

That the Foresthill Public Utility District is a tax-supported public entity but the construction of projects of the magnitude of the Sugar Pine Reservoir portion of the Auburn Dam project is beyond the financial means of the district to meet but nevertheless, the construction of the Sugar Pine Reservoir is necessary and vital to the Foresthill Divide and to the Foresthill Public Utility District;

That the board of directors of the district has been developing all possible sources to supplement their water supply but there are more applications for water being received than the district has water available to serve; that since 1959, the district's water storage and reserves have been used to the maximum limit and since July of 1959, there has been an increase of about approximately 46 percent in the number of customers to be served whereas the district supply sources have remained essentially the same as in 1959;

That the inadequacy of supply presents a material detriment to the area and in particular, constitutes a serious health and safety hazard in that there is serious risk of an inadequacy of water for domestic consumption and/or fire protection;

2. By virtue of the foregoing and related factual data, the construction of the Auburn Dam Project is endorsed by this said board of directors with particular emphasis and stress and urgency being directed at the Sugar Pine Reservoir, the latter being of vital concern and necessity to the Foresthill Divide and in particular, the Foresthill Public Utility District.

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#### RESOLUTION OF FORESTHILL DIVIDE CHAMBER OF COMMERCE

Whereas the Secretary of Interior, on October 21, 1963, forwarded to the Congress of the United States a revised report on the Auburn Dam-Folsom South Canal unit of the Federal Central Valley project, urging early authorization thereof; and

Whereas this Foresthill, Placer County, Chamber of Commerce, has in the past urged early authorization of this project which is vitally needed to areas in northern and central California for the purpose of providing flood control, recreation, fish and wildlife, irrigation, municipal, and power purposes; and

Whereas this project has been before the Congress of the United States under a previous report for more than 2 years; and

Whereas extensive hearings were held early in 1962 by the House of Representatives and the U.S. Senate Subcommittees on Interior and Insular Affairs; and

Whereas studies have found the revised Auburn Dam-Folsom south project to be financially feasible and economically justified; and

Whereas it is highly urgent that additional hearings be held by the appropriate committees of the Congress for the purpose of obtaining early authorization on the Auburn Dam-Folsom south project as now proposed: Now, therefore, be it

*Resolved*, That this Foresthill Divide Chamber of Commerce go on record as requesting the appropriate committees of the House of Representatives and the U.S. Senate to hold early hearings looking toward the authorization of said project; and be it further

*Resolved*, That copies of this resolution be forwarded to the President of the United States, the Secretary of Interior, the chairmen of the affected committees of the House of Representatives and the U.S. Senate, to the various Congressmen and U.S. Senators from the affected areas, and to appropriate State officials.



## 126 AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT

### RESOLUTION No. 411 OF THE CITY OF FOLSOM, CALIF.

Whereas the U.S. Government through the construction of the Folsom Dam has provided the necessary storage and diversion points for furnishing a water supply to designated service areas; and

Whereas the California State Water Rights Board in issuing the permit at Folsom Dam to the U.S. Government designated Sacramento County as a service area and at the same time recognized the area's right to contract with the U.S. Government for a water supply from Folsom Dam by conditioning the permit as follows:

"14. Deliveries of water under permits issued pursuant to application 13,370 and 13,371 shall be limited to deliveries for beneficial use within Placer, Sacramento, and San Joaquin Counties and shall not be made beyond the westerly or southerly boundaries thereof, except on a temporary basis, until the needs of those counties, present or prospective, are fully met, provided, however, that agreements in accordance with Federal reclamation laws between permittee and parties desiring such service within said counties are executed by July 1, 1968"; and

Whereas it is proposed to serve two separate service areas in Sacramento County, south of the American River, by the Folsom south unit of the Central Valley project; and

Whereas the California State Department of Water Resources has in all its published plans for the ultimate development of the Sacramento and San Joaquin Valleys considered that these service areas would best be served a water supply from storage on the American River; and

Whereas the best means of furnishing a water supply to these service areas from storage on the American River would be by the construction of the Folsom south unit of the Central Valley project; and

Whereas the ever increasing population pressure in Sacramento County and the Sacramento metropolitan area has resulted in a growing demand for meat and dairy products in these areas; and

Whereas to increase total production of farm products to meet the growing demand more irrigated acreage will be needed and this, in turn requires an additional water supply; and

Whereas the ground water supply is lacking or the existing ground water is overdrawn; and

Whereas the U.S. Bureau of Reclamation has demonstrated in its report, the economic and engineering feasibility of furnishing the necessary supplemental surface water supply to these service areas by the construction of the Folsom south unit of the Central Valley project: Now, therefore, be it

*Resolved*, That the City Council of the City of Folsom, hereby strongly endorses the Auburn-Folsom south unit of the Central Valley project, of which the Folsom south unit is an integral part, and urges early construction of the facility as a Federal reclamation project to assist in implementing an overall Sacramento County water development program necessary to serve rapid community growth related to a great extent to the national defense.

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### RESOLUTION 738 OF THE SACRAMENTO CITY COUNCIL

Whereas the Senate Committee on Interior and Insular Affairs through its Subcommittee on Irrigation and Reclamation has scheduled hearings on Senate bill 351 to authorize construction of the Auburn-Folsom south unit of the Central Valley project; and

Whereas studies and a subsequent report by the U.S. Bureau of Reclamation recommended favorably upon the project because of its potential flood protection benefits and the substantial benefits to users of water for domestic, agricultural, and industrial purposes; and

Whereas the Council of the City of Sacramento believes the construction of this project will be an important step in further minimizing the danger of flood to this city; and

Whereas the council believes that the recreational potential of this project will offer residents of this part of California a valuable recreational asset; and

Whereas the council believes that the economic status of farm populations in agricultural areas adjacent to Sacramento will be greatly improved with resultant indirect benefits to this city: Now, therefore, be it



*Resolved and ordered*, That this council officially endorses the Auburn-Folsom South unit project and urges the early authorization of its construction; and be it further:

*Resolved*, That certified copies of this resolution be forwarded to: The chairman, Senate Committee on Interior and Insular Affairs; the chairman, House Committee on Interior and Insular Affairs; Hon. Thomas H. Kuchel, U.S. Senator; Hon. Clair Engle, U.S. Senator; Hon. John E. Moss, Congressman, Third District, California; California Water Commission; Sacramento County Board of Supervisors; and Director, Region 2, U. S. Bureau of Reclamation.

#### RESOLUTION 63-11-14 OF THE ELK GROVE IRRIGATION DISTRICT

Whereas Elk Grove Irrigation District is an irrigation district duly organized and existing under the laws of the State of California; and

Whereas the territory of Elk Grove Irrigation District is situated in the southern portion of Sacramento County, Calif.; and

Whereas Elk Grove Irrigation District has no stream, lake, reservoir, canal, or other source located in its territory from which to distribute water except for ground water from wells; and

Whereas, the territory of Elk Grove Irrigation District is in the immediate proximity to Folsom Reservoir in Sacramento County, Calif., and said reservoir contains great quantities of water not now being distributed into the southern portion of Sacramento County; and

Whereas the territory of Elk Grove Irrigation District cannot be supplied adequately from ground water sources and a canal leading from Folsom Reservoir is necessary to lead waters into the territory of Elk Grove Irrigation District; and

Whereas the proposed route from Folsom South Canal will pass adjacent to the boundaries of Elk Grove Irrigation District and said canal will be of great benefit to Elk Grove Irrigation District; and

Whereas Elk Grove Irrigation District, and the Bureau of Reclamation have established a form of contract for the purchase and sale of water to be supplied to Elk Grove Irrigation District from said proposed canal when water from said canal is available; and

Whereas Folsom South Canal is the only feasible means for transporting water from Folsom Reservoir to the territory of Elk Grove Irrigation District:

Now, therefore, Elk Grove Irrigation District urges the Senate of the United States to authorize construction of the Folsom South Canal as described in the attachments to the letter dated January 15, 1962, of the Secretary of the Interior which said Secretary has duly forwarded to the U.S. Senate Committee on Interior and Insular Affairs.

#### RESOLUTION RF-63-28 OF THE BOARD OF SUPERVISORS OF THE SAN JOAQUIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Whereas the Congress of the United States now has before it the revised report of the Secretary of Interior of the United States relative to the Auburn Dam-Folsom South Canal project and related units; and

Whereas the facilities proposed by the revised Auburn Dam-Folsom South Canal project are vitally needed to conserve and transport supplemental water to the county of San Joaquin and to areas within the nearby counties of Placer, Sacramento, and El Dorado; and

Whereas the supplemental water which will be brought to San Joaquin County by the Auburn Dam-Folsom South Canal project is urgently needed, in part, to preserve in use large valuable acreages of highly productive farmland which is now endangered by a rapidly falling ground water table and by a lack of adequate surface water supply; and

Whereas anticipated urban growth within San Joaquin County and within the Folsom South Canal service area will inevitably require substantial supplemental water as a basis for further development; and

Whereas the facilities mentioned in the aforementioned report are necessary for the full development of the American River as an operating unit of the Federal Central Valley project; and

Whereas the contemplated facilities will provide much-needed additional flood control protection within the San Joaquin-Sacramento Delta: Now, therefore



*It is hereby resolved*, That this board of supervisors urges all appropriate action by the Congress of the United States directed toward the early authorization and construction of the Auburn Dam-Folsom South Canal project; and be it further

*Resolved*, That this board of supervisors authorizes and directs its vice chairman, Vernon F. Lehman, Supervisor Frank L. Hoyt, and the district's consultant, William R. Gianelli, to appear in Washington, D.C., in November 1963, before the appropriate congressional committee and to make a presentation in conformity with the statement on this proposed project made in behalf of the district by Vernon F. Lehman on February 20, 1962, before the U.S. Senate Committee on Interior and Insular Affairs; be it further

*Resolved*, That said statement of February 20, 1962, may be amended, as is necessary, to conform with supplemental reports transmitted by the Secretary of Interior to the Congress of the United States.

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#### RESOLUTION No. 24,162 OF THE STOCKTON CITY COUNCIL

Whereas, by Resolution No. 24,138, dated October 28, 1963, the City Council of the City of Stockton urged the Congress of the United States to take all steps possible toward the early authorization of the Auburn-Folsom South Canal project to provide a vitally needed supplementary water supply for the city of Stockton: Now, therefore, be it

*Resolved by the Council of the City of Stockton, as follows:*

That a delegation selected by the city council be and it is hereby authorized and directed to appear before the Subcommittee on Irrigation and Reclamation of the U.S. Senate Interior and Insular Affairs Committee at its meeting to be held on November 18 and 19, 1963, in Washington, D.C., to present arguments on behalf of the city of Stockton in support of securing early authorization of the Auburn-Folsom South Canal project.

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#### CALIFORNIA LEGISLATURE ASSEMBLY JOINT RESOLUTION No. 8

Whereas there has been submitted to the Congress of the United States legislation to authorize construction by the Secretary of Interior, as part of the Central Valley project, of both the Auburn Dam on the American River and the Folsom South Canal; and

Whereas this proposed development is known to be economically justified, and has been determined to be engineeringly feasible; and

Whereas the multiple-purpose project of the Auburn Dam will furnish additional water which can be used in the American River watershed, the Sacramento-San Joaquin Delta region, the San Joaquin Valley, and areas to the south, and will produce additional electric power which would be available for pumping water to areas of deficiency in California's statewide water program; and

Whereas the Folsom South Canal will serve to bring urgently needed supplemental water supplies to areas in the Sacramento-San Joaquin Delta region and the northern San Joaquin Valley area, which supplies would be made available from storage of water in Folsom Reservoir, as supplemented by the proposed Auburn Dam and Reservoir; and

Whereas both the proposed Auburn Dam and the Folsom South Canal are part of the California water plan and would complement the State's efforts to meet the water requirements of California's rapidly expanding population: Now, therefore, be it

*Resolved by the Assembly and the Senate of the State of California (jointly)*, That the Legislature of the State of California respectfully memorializes the President and the Congress of the United States to enact into law, at the earliest possible time, the necessary legislation to authorize the construction of the Auburn Dam and the Folsom South Canal, including authorization to include in such canal and related operating structures such additional works or capacity as the Secretary of Interior deems necessary and economically justified to provide for the future construction of the East Side division of the Central Valley project, provided that the incremental cost of providing additional works or capacity in the Folsom South Canal to serve the East Side division of the Central



Valley project shall be assigned to deferred use for repayment from Central Valley project revenues; and be it further

*Resolved*, That the chief clerk of the assembly is hereby directed to transmit copies of this resolution to the President and Vice President of the United States, to the Speaker of the House of Representatives, and to each Senator and Representative from California in the Congress of the United States.

#### RESOLUTION 86 OF THE CALIFORNIA WATER COMMISSION

Whereas numerous bills have been introduced in Congress requesting authorization of the Folsom South unit, American River division, Central Valley project in California; and

Whereas said project is necessary to utilize the waters made available by the construction of Folsom Dam and Reservoir on the American River as part of the Federal Central Valley project; and

Whereas water right permits have been issued by the State water rights board to the U.S. Bureau of Reclamation in furtherance of said Folsom South unit; and

Whereas assignment of the necessary State filings has also been made to the U.S. Bureau of Reclamation for the purposes of said Folsom South unit; and

Whereas the U.S. Department of Interior is expected to have released its report on Folsom South Canal prior to the commencement of the next session of the Congress of the United States; and

Whereas said Folsom South Canal as presently contemplated will serve lands in Sacramento, San Joaquin, and El Dorado Counties, which lands urgently need supplemental water supplies; and

Whereas negotiations are currently underway between the U.S. Bureau Reclamation and various water agencies within said counties in anticipation of said water supplies being available; and

Whereas requests have been made to the California Water Commission by El Dorado, San Joaquin, and Sacramento Counties urging the commission to lend its support to early authorization of said project; and

Whereas the Folsom South Canal should be constructed to provide for future integration with the proposed East Side division of the Central Valley project and should be authorized accordingly; and

Whereas the U.S. Bureau of Reclamation is preparing, in coordination with other Federal and State agencies, a report on the proposed East Side division, including expansion and integration of the proposed Folsom South Canal; and

Whereas this commission recognizes that additional costs will be involved in providing for such future expansion and that appropriate measures must be taken to meet such added costs; and

Whereas by such integration, the best interests of the people of the State of California and the water users within the service areas of both the Folsom South and East Side projects would be served; and under these conditions, San Joaquin Valley water users urge the commission to lend its support: Now, therefore, be it

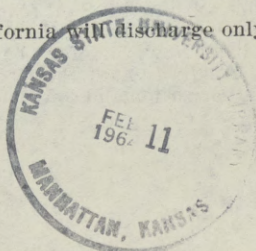
*Resolved*, That the California Water Commission go on record as urging the Congress of the United States to authorize the Folsom South unit of the American River division of the Central Valley project essentially as proposed under H.R. 2496 of the 86th Congress, 1st session, to include the construction of Malby Canal as a part of the legislation, with appropriate modifications to provide for enlargement and integration with the proposed East Side division of the Central Valley project; and be it further

*Resolved*, That a copy of this resolution be forwarded to the U.S. Senators and appropriate Representatives in Congress and to the U.S. Department of the Interior.

#### RESOLUTION 100 OF THE CALIFORNIA WATER COMMISSION

Whereas California is in the midst of the third of a series of extremely dry water seasons; and

Whereas many streams in the Central Valley of California discharge only 15 to 40 percent of their normal seasonal flows; and





## 130 AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT

Whereas serious water shortages have previously existed in these areas and the long-term outlook is critical; and

Whereas the U.S. Bureau of Reclamation and the State of California have planned water development facilities to deliver additional supplemental water to Central Valley areas through the Central Valley project works and the Feather River project works; and

Whereas these works include the San Luis unit, the Auburn Dam, the Folsom South Canal, and East Side division; and

Whereas the State of California has approved the report of the regional director of the U.S. Bureau of Reclamation on Auburn Dam and Folsom South Canals units; and

Whereas legislation to authorize these proposed units of the Central Valley project is pending before the U.S. Congress: Now, therefore, be it

*Resolved*, That the California Water Commission hereby endorses the planned construction of the San Luis, Auburn Dam, and Folsom South Canal units and the East Side division of the Central Valley project and urges and requests that the Congress of the United States take the necessary action to implement the early authorization and construction of the aforesaid additional facilities of the Central Valley project of California, in accordance with pending legislation.

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### RESOLUTION 117 OF THE CALIFORNIA WATER COMMISSION

Whereas on November 2, 1961, the Secretary of the Interior approved the report of the Bureau of Reclamation on the Foresthill Divide and Folsom-Malby features of Auburn-Folsom South unit of the American River division, Central Valley project, California; and

Whereas the California Water Commission, by Resolution 86, dated September 15, 1960, and Resolution 100, dated May 12, 1961, is on record in support of the Auburn-Folsom South unit as the first phase of the proposed East Side division; and

Whereas the director of water resources, in his official comments dated November 27, 1961, recommended that Foresthill Divide and Folsom-Malby areas be authorized as outlined in the report of November 2, 1961, noted above: Now, therefore, be it

*Resolved*, That the California Water Commission reaffirms its previous endorsements of the Auburn-Folsom South unit as the first phase of the proposed East Side division, and urges that its authorization include the Foresthill Divide and Folsom-Malby areas, integrated physically and financially with the Central Valley project as provided in the report of November 2, 1961.

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### RESOLUTION OF THE GREATER STOCKTON CHAMBER OF COMMERCE

Whereas the Congress of the United States now has before it the revised report of the Secretary of Interior of the United States relative to the Auburn Dam-Folsom South Canal project and related units; and

Whereas the facilities proposed by the revised Auburn Dam-Folsom South Canal project are vitally needed to conserve and transport supplemental water to the county of San Joaquin and to areas within the nearby counties of Placer, Sacramento, and El Dorado; and

Whereas the supplemental water, which will be brought to the Folsom South Canal service area by the Auburn Dam-Folsom South Canal project, will preserve in use large and valuable acreages of highly productive farmland which are now endangered by a falling ground water table and by a lack of adequate surface water supply; and

Whereas urban and agricultural areas in San Joaquin County and the Folsom South Canal service area now require substantial supplemental water to sustain the present development; and further development will be feasible only if supplemental water supplies become available; and

Whereas the planned facilities will provide additional flood control protection within the San Joaquin-Sacramento Delta and are necessary for the full development and utilization of the precious water resources of the American River: Now, therefore, be it

*Resolved*, That the Greater Stockton Chamber of Commerce urges the early authorization and construction of this project.



## RESOLUTION NO. 2674 OF THE CITY OF LODI, CALIF.

Whereas the city of Lodi is located in San Joaquin County, Calif., along the Mokelumne River; and

Whereas the city of Lodi does not have rights to water from the Mokelumne River for its municipal water supply, nor does it have prospects of securing such rights since all available water from said river has already been allocated; and

Whereas the city of Lodi is entirely dependent for its water supply upon the underground water table which has been declining; and

Whereas the City Council of the City of Lodi is aware of its obligation to the citizens of the community to provide water for future domestic and industrial consumption; and

Whereas Auburn Dam and Folsom South Canal will be sources of additional water to meet future needs of the city of Lodi; and

Whereas these facilities are necessary for the full development of the American River as a working part of the Federal Central Valley project; and

Whereas, these facilities will provide additional benefits of flood control in the Sacramento-San Joaquin Delta area; and

Whereas the economy of the city of Lodi is largely dependent upon the maintenance of strong and prosperous agricultural activities in the areas surrounding the city; and

Whereas the City Council of the City of Lodi recognizes the urgency of providing additional water for the continued prosperity of much farmland in this area which is threatened by a rapidly falling ground water table; and

Whereas plans for water distribution in the agricultural areas are dependent on the Auburn Dam-Folsom South Canal project and cannot be finalized until the project is authorized; Now, therefore, be it

*Resolved*, That the City Council of the City of Lodi endorses the Auburn Dam-Folsom South Canal project as submitted to the Congress so that:

1. The city of Lodi will have an ample supply of water to meet its domestic and industrial needs; and

2. The agricultural economy of the areas adjacent to the city of Lodi will be maintained.

Be it further

*Resolved*, That the city of Lodi urges all appropriate action, particularly by the U.S. Senate Interior and Insular Affairs Committee, directed toward the early authorization and construction of the Auburn Dam-Folsom South Canal project.

## RESOLUTION OF THE LODI (CALIF.) CHAMBER OF COMMERCE

Whereas the Secretary of the Interior of the United States has transmitted to the President of the United States his report on the Auburn-Folsom South unit of the Central Valley project; and

Whereas the President has transmitted this report to the Congress of the United States; and

Whereas these facilities are necessary for the full development of the American River as a working part of the Federal Central Valley project; and

Whereas the water committee of the Lodi District Chamber of Commerce is composed of representatives of 15 different legal entities, to wit: San Joaquin County Board of Supervisors, the city of Lodi, the East Bay Municipal Utility District, U.S. District Corps of Army Engineers, California State Reclamation Board, Woodbridge Irrigation District, Woodbridge Water Users, Northern San Joaquin Conservation District, San Joaquin County Flood Control District, Mokelumne Irrigation District, Lockeford Protective District, Bear Creek Soil Conservation District, Northern San Joaquin County Mosquito Abatement District, Pacific Gas & Electric Co., and the Lodi District Chamber of Commerce; and

Whereas the area represented by the foregoing districts comprises most of the northern part of the San Joaquin County; and

Whereas the economic welfare of this very rich agricultural area is greatly endangered by the rapid dropping of the water table and lack of adequate surface water supply; and

Whereas presently available water is now in the Folsom Reservoir to correct this situation; and



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Whereas a similar resolution was passed by the Lodi District Chamber of Commerce on the 14th day of February 1962; and

Whereas the Lodi District Chamber of Commerce is anxious to indicate its continuing interest in the Auburn-Folsom South Canal and to reaffirm its earlier resolution: Now, therefore, it is hereby

*Resolved*, That the Lodi District Chamber of Commerce endorses the Auburn-Folsom South unit of the Central Valley project as submitted to the Congress of the United States; and be it further

*Resolved*, That the Lodi District Chamber of Commerce urges all appropriate action be directed toward the early authorization and construction of the Auburn-Folsom South Canal project; and be it further

*Resolved*, That copies of this resolution be forwarded to the Honorable Thomas Kuchel, U.S. Senator; the Honorable Clair Engle, U.S. Senator; the Honorable John McFall, Congressman, 11th Congressional District; the honorable chairman of the U.S. Senate Interior and Insular Affairs Committee; the Honorable Stewart Udall, Secretary of the Interior of the United States; the Honorable Edmund G. Brown, Governor of the State of California; and the Honorable Charles Hawkins, chairman of the board of supervisors of the county of San Joaquin, State of California.

Passed and adopted on the 13th day of November 1963.

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### RESOLUTION OF THE BOARD OF DIRECTORS OF THE STOCKTON AND EAST SAN JOAQUIN WATER CONSERVATION DISTRICT

Whereas there is now before the Congress of the United States of America the revised report of the Secretary of the Interior of the United States of America relative to the Auburn Dam-Folsom South Canal project and related units; and

Whereas the facilities proposed by the revised Auburn Dam-Folsom South Canal project are urgently needed to conserve and transport supplemental water to the county of San Joaquin and to areas within the nearby counties of Placer, Sacramento, and El Dorado; and

Whereas the supplemental water which will be made available to the San Joaquin County area by the Auburn Dam-Folsom South Canal project is vitally needed, in part, to meet the urgent needs of this district for an additional supplemental water supply to be used in the preservation of approximately 48,000 acres of highly productive irrigated farmland within this district which land is now endangered by a rapidly falling ground water table and by the lack of an adequate surface water supply; and

Whereas anticipated urban growth within the Stockton metropolitan area and within this district will inevitably require substantial supplemental water as a basis for further development; and

Whereas this district is a potential water user of the Auburn Dam-Folsom South Canal project: Now, therefore, be it

*Resolved*, That this board of directors urges all appropriate action by the Congress of the United States of America toward the early authorization and construction of the Auburn Dam-Folsom South Canal project; and be it further

*Resolved*, That this board of directors authorizes and directs one of the attorneys of this district to appear in Washington, D.C., on November 18 and 19, 1963, before the U.S. Senate Committee on Interior and Insular Affairs and to make a presentation before that committee and before any other appropriate bodies in conformity with this resolution.

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### RESOLUTION No. 237-63 OF THE BOARD OF SUPERVISORS OF THE COUNTY OF EL DORADO, CALIF.

Whereas on January 29, 1960, the regional director, region 2, of the Bureau of Reclamation, U.S. Department of the Interior, made his feasibility report on the Auburn-Folsom South unit of the Central Valley project in California, recommending construction of said unit; and

Whereas on August 10, 1961, the regional director made a supplemental report on the Folsom-Malby area of the Folsom South unit, recommending the construction of the Malby Reservoir and related works as a integral part of the Auburn-Folsom South unit of the Central Valley project; and



Whereas, lack of adequate water supplies in the southwestern portion of El Dorado County have prevented the development of this portion of the county, and construction of Malby Reservoir would provide a dependable source of water to a large part of this area, permitting these lands to develop to their highest and best use: It is hereby

*Resolved by the Board of Supervisors of the County of El Dorado, State of California*, That the Congress of the United States be and it is hereby urgently requested to authorize the construction of the Malby Reservoir and related works as an integral part of the Auburn-Folsom South unit of the Central Valley project in California, and to make the appropriations necessary for the immediate construction of this project.

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RESOLUTION No. 5-63 OF THE BOARD OF DIRECTORS OF EL DORADO COUNTY WATER AGENCY

Whereas, on January 29, 1960, the regional director, region 2, of the Bureau of Reclamation, U.S. Department of the Interior, made his feasibility report on the Auburn-Folsom South unit of the Central Valley project in California, recommending construction of said unit; and

Whereas, on August 10, 1961, the regional director made a supplemental report on the Folsom-Malby area of the Folsom South unit, recommending the construction of the Malby Reservoir and related works as an integral part of the Auburn-Folsom South unit of the Central Valley project; and

Whereas, in March 1963, a supplemental evaluation of the Auburn-Folsom South unit of the Central Valley project was made by the Bureau of Reclamation recommending construction of the project including the Malby Reservoir features; and

Whereas lack of adequate water supplies in the southwestern portion of El Dorado County have prevented the development of this portion of the county, and construction of Malby Reservoir would provide a dependable source of water to a large part of this area, permitting these lands to develop to their highest and best use: It is hereby

*Resolved by the Board of Directors of El Dorado County Water Agency, State of California*, That the Congress of the United States be and it is hereby urgently requested to authorize the construction of the Malby Reservoir and related works as an integral part of the Auburn-Folsom South unit of the Central Valley project in California, and to make the appropriations necessary for the immediate construction of this project.

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RESOLUTION OF THE EL DORADO COUNTY CHAMBER OF COMMERCE

Whereas a great amount of water originating in El Dorado County is now wasted and flows to the Pacific Ocean; and

Whereas the construction of the Auburn Dam is important to the development of water resources in El Dorado County; and

Whereas the Malby unit which would pump water from Folsom Dam at an elevation of 500 feet for storage in the Deer Creek area in El Dorado County would provide municipal and industrial water for the west end of El Dorado County; and

Whereas the extension of this water to western El Dorado County appears to be the only factor which would bring about the development of that area; and

Whereas although the major areas to derive benefit would be eastern Sacramento County, this development would benefit all of this section of the State and therefore what benefits one benefits all: Now, therefore, be it

*Resolved*, That the directors of the El Dorado County Chamber of Commerce have unanimously gone on record urging authorization of the construction of Auburn Dam and the Folsom South Canal including the Malby area as units of the Central Valley project.

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RESOLUTION OF THE BOARD OF DIRECTORS OF EL DORADO IRRIGATION DISTRICT

Whereas the regional director, region 2, of the U.S. Bureau of Reclamation has heretofore completed his feasibility studies of the Auburn-Folsom South unit of the Central Valley project, California, including a supplemental evalua-



tion of said unit, and has recommended construction of the Auburn-Folsom South unit; and

Whereas lands in western El Dorado County are urgently in need of an adequate water supply; and

Whereas construction of the Folsom-Malby features of the Auburn-Folsom south unit, Central Valley project will provide water service to a large part of western El Dorado County: Now, therefore, be it, and it is hereby

*Resolved by the Board of Directors of El Dorado Irrigation District*, That the Congress of the United States be and is hereby requested to favorably consider S. 351 (Engle and Kuchel) authorizing construction of the Auburn-Folsom south unit of Central Valley project in California, including the Folsom-Malby and Foresthill Divide features, and to make the necessary appropriations for early construction of this project.

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RESOLUTION ADOPTED BY THE BOARD OF DIRECTORS OF NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT

Whereas this district comprises approximately 52,700 acres of land, situated in the northern part of the county of San Joaquin, in the State of California, about 2,500 acres thereof lying within the corporate limits of the city of Lodi, and the remainder thereof being highly productive agricultural lands used for the production of grapes, tree fruits, nuts, row crops, alfalfa, clover, and other farm crops; and

Whereas the aforesaid agricultural lands now are, and for more than 50 years last past have been, irrigated from wells, and the city of Lodi now obtains, and for more than 50 years has obtained, its requirements of water for domestic and industrial purposes from wells, which wells draw upon the ground water basin underlying this district; and

Whereas the ground water table within this district has drastically receded during the past 15 years, and is now in extremely overdrawn condition; and

Whereas to alleviate the aforesaid depleted and overdrawn underground water condition in this district, this district must obtain a supplemental supply of water at the earliest possible time to save and preserve the agricultural lands within this district and to provide the domestic and industrial water needs of the city of Lodi and the residents thereof; and

Whereas, pursuant to State of California Water Rights Board Decision No. D-893, dated March 19, 1958, this district is entitled to obtain its required supply of supplemental water from and out of the American River by way of the proposed Folsom South Canal under appropriate contract between this district and the U.S. Bureau of Reclamation; and

Whereas the Secretary of the Interior of the United States has heretofore forwarded to the Congress of the United States his report recommending the early authorization of the proposed Auburn Dam-Folsom South Canal project and related units; and

Whereas the earliest possible authorization and construction of said proposed Auburn Dam-Folsom South Canal project is most urgent and necessary to save and preserve the lands of this district: Now, therefore, it is hereby

*Resolved*, That this district hereby commends the Secretary of the Interior for recognizing the urgent need of the Auburn Dam-Folsom South Canal project; and be it further

*Resolved*, That this district urges the U.S. Senate and the House of Representatives of the U.S. Congress to take such steps and actions as may be required to accomplish the early authorization and construction of said Auburn Dam-Folsom South Canal project.

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RESOLUTION OF THE BOARD OF DIRECTORS OF THE IVANHOE IRRIGATION DISTRICT

Whereas many landowners of the Central Valley are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for east side use, would be a forward step in providing such needed supplemental water: Now, therefore, be it



*Resolved*, That the Board of Directors of the Ivanhoe Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, including enlargement for east side use, as provided for in S. 351 (Kuchel-Engle) and H.R. 2499 (Hagen), as soon as possible; be it further

*Resolved*, That copies of this resolution be forwarded to Governor Edmund G. Brown, members of the California congressional delegation, officials of the Department of the Interior, the Bureau of Reclamation, and other interested parties.

Passed and adopted this 12th day of November 1963.

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RESOLUTION OF THE BOARD OF DIRECTORS OF ALTA IRRIGATION DISTRICT

Whereas landowners of Alta Irrigation District are in need of supplemental water for full development need to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for east side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the Board of Directors of the Alta Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for east side use, as soon as possible as proposed in S. 351, H.R. 2430 and companion legislation; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation and other interested parties.

Passed and adopted this 12th day of November 1963.

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RESOLUTION OF THE DELANO-EARLIMART IRRIGATION DISTRICT

Whereas landowners of the southern San Joaquin Valley are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for east side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the Delano-Earlimart Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for east side use, as per authorizing bills S. 351 (Kuchel-Engle) and H.R. 2430 (Sisk) and H.R. 2499 (Hagen), as soon as possible; and be it further

*Resolved*, That copies of the resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

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RESOLUTION OF THE BOARD OF DIRECTORS OF FRESNO IRRIGATION DISTRICT

Whereas landowners of San Joaquin Valley are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding need for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it



## 136 AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT

*Resolved*, That the board of directors of Fresno Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

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### RESOLUTION OF THE BOARD OF DIRECTORS OF THE PORTERVILLE IRRIGATION DISTRICT

Whereas the board of directors of the Porterville Irrigation District feel that it is in the best interest of the landowners within the district to authorize bills S. 351, H.R. 2411, H.R. 2420, H.R. 2430, H.R. 2499, and H.R. 2679 which will come before the U.S. Senate Interior Committee for the authorization of the Auburn-Folsom South unit of the Central Valley project; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the Porterville Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of the resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

Passed and adopted this 13th day of November 1963.

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### RESOLUTION OF THE BOARD OF DIRECTORS OF THE TULARE IRRIGATION DISTRICT

Whereas landowners of Tulare Irrigation District are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water; such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the board of directors of Tulare Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

Passed and adopted this 11th day of November 1963.

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### RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAUCELITO IRRIGATION DISTRICT

Whereas landowners of the Saucelito Irrigation District of the county of Tulare, State of California, are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for east side use would be a forward step in providing such needed supplemental water: Now, therefore, be it



*Resolved*, That the board of directors of the Saucelito Irrigation District, acting for and on behalf of the Saucelito Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

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RESOLUTION OF THE BOARD OF DIRECTORS OF THE STONE CORRAL IRRIGATION DISTRICT

Whereas the landowners of the Stone Corral Irrigation District are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the Stone Corral Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further.

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

The foregoing resolution was adopted upon the motion of Director Bordwin, seconded by Director Morioka, at a regular meeting of said board on the 5th day of November 1963, by a unanimous vote.

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RESOLUTION OF THE BOARD OF DIRECTORS OF LINDMORE IRRIGATION DISTRICT

Whereas landowners of Lindmore Irrigation District need supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, and such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for east side use would be a forward step in providing such needed supplemental water to needy lands of the State: Now, therefore, be it

*Resolved*, That Lindmore Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit with provisions for enlargement for East Side use, as soon as possible; be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior, and the Bureau of Reclamation.

Passed and adopted this 12th day of November 1963.

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RESOLUTION OF THE BOARD OF DIRECTORS OF THE LOWER TULE RIVER IRRIGATION DISTRICT

Whereas there are pending before the Congress of the United States certain bills authorizing the construction of that certain water conservation project commonly known as the Auburn-Folsom South unit of the Central Valley project, California, i.e., S. 351 (Kuchel-Engle), H.R. 2411 (Johnson), 2420 (Moss), 2430 (Sisk), 2499 (Hagen), and 2679 (McFall); and

Whereas those facilities contemplated by the said Auburn-Folsom South Canal project are necessary for the full development of the American River as part of the Federal Central Valley project and will provide vitally needed



supplemental water and additional flood control to areas within Placer, Sacramento, El Dorado, and San Joaquin Counties; and

Whereas the provisions for enlargement of the Folsom South Canal and its integration into the proposed East Side division of the Federal Central Valley project will make available a vitally needed supplemental water supply to areas within Madera, Fresno, Tulare, and Kern Counties; and

Whereas the Lower Tule River Irrigation District is a California irrigation district situate in the county of Tulare, State of California, comprising developed agricultural lands that are water deficient and in vital need of a further supplemental irrigation water supply and dependent for that supply upon the enlargement and extension of the Federal Central Valley project through construction of the proposed East Side division thereof: Now, therefore, be it

*Resolved*, That the Lower Tule River Irrigation District does hereby urge and recommend to the appropriate committees of Congress that the said project be authorized; and be it further

*Resolved*, That the Lower Tule River Irrigation District does urge the Congress of the United States to authorize and construct the Auburn-Folsom South Canal unit, with provisions for enlargement and integration into the proposed East Side division of the Federal Central Valley project, as soon as possible; and be it further

*Resolved*, That the secretary of the Lower Tule River Irrigation District be, and she is hereby, authorized and directed to forward copies of this resolution to Mr. James F. Sorenson, secretary of the Central Valley East Side Project Association, to members of the California congressional delegation, to officials of the Department of the Interior, and the Bureau of Reclamation, and to other interested persons.

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#### RESOLUTION OF THE BOARD OF DIRECTORS OF THE CONSOLIDATED IRRIGATION DISTRICT

Whereas landowners of Consolidated Irrigation District are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That Consolidated Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior, and the Bureau of Reclamation.

Passed and adopted this 7th day of November 1963.

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#### RESOLUTION OF THE BOARD OF DIRECTORS OF THE JAMES IRRIGATION DISTRICT, SAN JOAQUIN, CALIF.

Whereas landowners of James Irrigation District are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That James Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; be it further



*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior, and the Bureau of Reclamation.

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RESOLUTION No. 56 OF KINGS COUNTY WATER DISTRICT

Whereas landowners of Kings County Water District are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding, as rapidly as possible, with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That Kings County Water District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior, and the Bureau of Reclamation.

Passed and adopted this 5th day of November 1963.

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RESOLUTION OF THE RAG GULCH WATER DISTRICT

Whereas landowners of the Rag Gulch Water Distirct are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development of water is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the Rag Gulch Water District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior, and the Bureau of Reclamation.

Passed and adopted this 13th day of November 1963.

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RESOLUTION OF THE BOARD OF DIRECTORS OF ANGIOLA WATER DISTRICT

Whereas landowners of Angiola Water District are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That Angiola Water District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

Passed and adopted this 7th day of November 1963.



## RESOLUTION OF THE KINGS RIVER CONSERVATION DISTRICT

Whereas the Kings River service area of approximately 1 million acres located within the boundaries of the Kings River Conservation District is an area of water deficiency and is in need of a supply of supplemental water; and

Whereas in spite of efforts of various local water agencies to obtain additional water supplies, such deficiency is expected to increase; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use is needed before such supplemental water can be provided through the proposed East Side project: Now, therefore, be it

*Resolved*, That the Kings River Conservation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

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## RESOLUTION OF THE BOARD OF DIRECTORS OF LIBERTY FARMS MUTUAL WATER CO.

Whereas landowners and stockholders of Liberty Farms Mutual Water Co. are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That Liberty Farms Mutual Water Co. urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

Passed and adopted this 5th day of November 1963.

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## RESOLUTION OF THE BOARD OF DIRECTORS OF LIBERTY CANAL CO.

Whereas landowners and stockholders of Liberty Canal Co. are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That Liberty Canal Co. urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

Passed and adopted this 6th day of November 1963.

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## RESOLUTION OF THE BOARD OF DIRECTORS OF BURRELL DITCH CO.

Whereas landowners and stockholders of Burrell Ditch Co. are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and



Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That Burrell Ditch Co. urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

Passed and adopted this 6th day of November 1963.

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RESOLUTION OF THE BOARD OF DIRECTORS OF REED DITCH CO.

Whereas landowners and stockholders of Reed Ditch Co. are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That Reed Ditch Co. urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

Passed and adopted this 7th day of November 1963.

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RESOLUTION OF THE BOARD OF SUPERVISORS, COUNTY OF TULARE, STATE OF CALIFORNIA

Whereas landowners of the county of Tulare are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis, and to preserve the existing agricultural economy of the area; and

Whereas, although various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit of the Central Valley project, with provisions for enlargement for East Side use, would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That this board of supervisors hereby urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit of the Central Valley project, with provisions for enlargement for East Side use, as soon as possible, by the passage of S. 351 and H.R. 2411, H.R. 2420, H.R. 2430, H.R. 2499, and H.R. 2679; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

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RESOLUTION No. 63-434 OF THE BOARD OF SUPERVISORS OF THE COUNTY OF MADERA, CALIF.

Whereas landowners of Madera County are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and



## 142 AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the board of supervisors of the County of Madera urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

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### RESOLUTION NO. 30 OF THE BOARD OF DIRECTORS OF THE KERN COUNTY WATER AGENCY

Whereas: (a) Water users along the eastern slope of the San Joaquin Valley portion of Kern County are currently overdrafting the ground water supply; and

(b) The existing and protracted supplemental water supplies made possible by currently authorized State or Federal projects will be insufficient to maintain the present overdrafted level of ground water; and

(c) Other sources of water supply than those now available or authorized are necessary to sustain the agricultural economy of Kern County and other areas of the south San Joaquin Valley; and

(d) The proposed Auburn Dam-Folsom South Canal unit, with the canal authorized of size sufficient to serve the proposed East Side division of the Central Valley project, will be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved by the board of directors of the Kern County Water Agency as follows:*

(a) That the Congress of the United States is hereby urged to authorize and construct the Auburn Dam-Folsom South Canal unit, of size sufficient to serve the proposed East Side division of the Central Valley project; and

(b) That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior and the Bureau of Reclamation.

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### RESOLUTION NO. 63-03 OF THE RECREATION COMMISSION OF THE COUNTY OF PLACER, STATE OF CALIFORNIA

Whereas the Secretary of Interior, on October 21, 1963, forwarded to the Congress of the United States a revised report recommending the early authorization of the Auburn Dam-Folsom South Canal unit of the Central Valley project; and

Whereas this project has been before the Congress of the United States under a previous report for more than 2 years; and

Whereas the facilities to be constructed under this project are vitally needed to supply water to areas within Placer, Sacramento, El Dorado, and San Joaquin Counties; and

Whereas these facilities are necessary for the full development of the American River as part of the Central Valley project and that said project will, also, provide needed additional flood controls along the lower reaches of the American River, the Sacramento River, and within the Sacramento-San Joaquin Delta; and

Whereas recreation is a beneficial use of water along with irrigation, domestic, power, and flood control; and

Whereas the county of Placer, Calif., and many civic organizations have in the past urged early authorization of this project for the purpose of providing flood control, recreation, fish and wildlife, power, irrigation, and municipal water supplies: Now, therefore, be it

*Resolved by the Recreation Commission of the County of Placer, State of California*, That the said commission urges the appropriate committees of the



House of Representatives and the U.S. Senate to expedite hearings and an early authorization of said project; and be it further

*Resolved*, That copies of this resolution be forwarded to the aforementioned committees.

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RESOLUTION OF THE PLACER COUNTY BOARD OF REALTORS

Whereas the Secretary of the Interior, on October 21, 1963, forwarded to the Congress of the United States a revised report recommending the early authorization of the Auburn Dam-Folsom South Canal unit of the Federal Central Valley project; and

Whereas this project has been before the Congress of the United States under a previous report for more than 2 years; and

Whereas the facilities to be constructed under this project are vitally needed to supply water to areas within Placer, Sacramento, El Dorado, and San Joaquin Counties; and

Whereas these facilities are necessary for the full development of the American River as part of the Federal Central Valley project and they will also provide additional much-needed flood control along the lower reaches of the American River, the Sacramento River, and within the Sacramento-San Joaquin Delta; and

Whereas recreation is a beneficial use of water along with irrigation, domestic, power, and flood control; and

Whereas the board of realtors and many civic-minded organizations have, in the past, urged early authorization of this project which is vitally needed to areas in northern and central California for the purposes of providing flood control, recreation, fish and wildlife, power irrigation, and municipal water supplies: Now, therefore, be it

*Resolved*, That the Placer County Board of Realtors request the appropriate committees of the House of Representatives and the U.S. Senate to hold early hearings looking toward the authorization of said project; and be it further

*Resolved*, That copies of this resolution be forwarded to those public officials concerned.

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RESOLUTION OF THE BOARD OF DIRECTORS OF THE IVANHOE IRRIGATION DISTRICT

Whereas landowners of Ivanhoe Irrigation District are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the board of directors of the Ivanhoe Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior, and the Bureau of Reclamation.

Passed and adopted this 12th day of November 1963.

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RESOLUTION OF THE BOARD OF DIRECTORS OF THE FRESNO IRRIGATION DISTRICT

Whereas landowners of San Joaquin Valley are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding need for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use would be a forward step in providing such needed supplemental water: Now, therefore, be it



*Resolved*, That the board of directors of Fresno Irrigation District urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior, and the Bureau of Reclamation.

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RESOLUTION NO. 63-434 OF THE BOARD OF SUPERVISORS OF THE COUNTY OF  
MADERA, CALIF.

Whereas landowners of Madera County are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace with the expanding needs for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the Board of Supervisors of the County of Madera urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of the Interior, and the Bureau of Reclamation.

The foregoing resolution was adopted this 12th day of November 1963.

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RESOLUTION OF THE BOARD OF DIRECTORS OF THE LEMOORE CANAL & IRRIGATION CO.

Whereas landowners within the service area of Lemoore Canal & Irrigation Co. are in dire need of supplemental water to make it possible for them to continue their farming operations on an economical basis; and

Whereas various private and public agencies are proceeding as rapidly as possible with the development of water, such development is not keeping pace for the expanding need for agricultural and domestic water; and

Whereas the proposed Auburn Dam-Folsom South Canal unit with provisions for enlargement for East Side use, would be a forward step in providing such needed supplemental water: Now, therefore, be it

*Resolved*, That the board of directors of Lemoore Canal & Irrigation Co. urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit, with provisions for enlargement for East Side use, as soon as possible; and be it further

*Resolved*, That copies of this resolution be forwarded to members of the California congressional delegation, officials of the Department of Interior, and the Bureau of Reclamation.

Passed and adopted this 15th day of November 1963.

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RESOLUTION OF THE BOARD OF SUPERVISORS, COUNTY OF TULARE, STATE OF  
CALIFORNIA

Whereas there are presently pending before the Congress of the United States bills which would authorize the construction of the Auburn Dam-Folsom South unit of the Central Valley project; and

Whereas the Tulare County Water Commission has recommended that this board go on record urging Members in Congress representing this area to do all in their power to expedite hearings on the aforementioned bills; and

Whereas it appears to this board the aforementioned Auburn Dam-Folsom South unit of the Central Valley project is of great importance in serving the water needs of the county of Tulare and the east side of the San Joaquin Valley: Now, therefore, be it



*Resolved as follows:*

1. This board does hereby unanimously urge our representatives in the Congress of the United States of America to do all in their power to expedite the hearings on the Auburn Dam-Folsom South unit of the Central Valley project;
2. The clerk of this board is hereby directed to send certified copies of this resolution to U.S. Senator Clair Engle, to U.S. Senator Thomas H. Kuchel, and to Congressman Harlan Hagen.

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RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAUCELITO IRRIGATION DISTRICT

Director Ferrero offered the following resolution and moved its adoption:

Whereas we have considered Senate bill 351 introduced in the Senate of the United States of America at the 88th Congress, 1st session, by Senators Engle and Kuchel, and which bill has, for its object, the authorization to the Secretary of the Interior to construct, operate, and maintain the Auburn-Folsom South unit, American River division, Central Valley project, California, under Federal reclamation laws; and

Whereas further and additional water supply is necessary for the south end of the San Joaquin Valley of California; and

Whereas we feel that the Auburn-Folsom South unit offers a solution to the above problem: Now, therefore, be it

*Resolved*, That we approve Senate bill 351, and urge the 88th Congress of the United States to adopt the same and permit the early construction of the Auburn-Folsom South unit and its related projects.

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RESOLUTION NO. 7 OF THE CALIFORNIA MUNICIPAL UTILITIES ASSOCIATION

Whereas the Secretary of the Interior repeatedly has urged the Congress to authorize the Auburn-Folsom South unit of the Central Valley project of California; and

Whereas S. 351 and H.R. 2420 have been introduced in the Congress to authorize the Auburn-Folsom South unit to include as its principal features:

(a) The Auburn Dam and Reservoir with a capacity of about 2½ million acre-feet;

(b) A hydroelectric plant at Auburn Dam with an initial installed capacity of 240,000 kilowatts and necessary electric transmission system for interconnection with the Central Valley project power system;

(c) The Sugar Pine Dam and Reservoir;

(d) The County Line Dam and Reservoir;

(e) Necessary facilities to deliver water to projects on the Foresthill Divide in Placer County and in the Folsom-Malby area in Sacramento and El Dorado Counties;

(f) The Folsom South Canal and related features; and

Whereas the construction and operation of the Auburn-Folsom South Canal unit will provide needed irrigation, industrial and municipal water and power to many areas in northern California and will provide additional flood control on the American and Sacramento Rivers and in the Sacramento-San Joaquin Delta area: Now, therefore, be it

*Resolved*, That the California Municipal Utilities Association urge the Congress promptly to authorize the construction and operation of the Auburn-Folsom South unit of the Central Valley project; and be it further

*Resolved*, That the executive director of the association be directed to send a copy of this resolution to the California congressional delegation.

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RESOLUTION OF THE REGION 3 WATER PROBLEMS DEPARTMENT

Whereas the Secretary of the Interior of the United States, with letter dated January 15, 1962, forwarded to the Congress of the United States reports recommending the early authorization of the Auburn Dam and Folsom South Canal project and related units; and

Whereas the additional water, which will be made available by the Auburn Dam and Folsom South Canal unit with the proposed East Side division, is



urgently needed to preserve in use large acreages of highly productive farmland which is now endangered by a rapidly falling ground water table and by a lack of adequate surface water supply; and

Whereas the facilities to be constructed are vitally needed to conserve and transport additional supplemental water to areas within the San Joaquin Valley by means of the contemplated East Side division of the Central Valley project; and

Whereas, although the State of California and other public and private agencies therein are proceeding as rapidly as possible with State and local projects, such developments cannot keep pace with the ever-increasing need for water within the State of California: Now, therefore, be it

*Resolved as follows:*

(1) The Region 3 Water Problems Department of the California Farm Bureau Federation hereby endorses the Auburn Dam and Folsom South Canal project as submitted with enlargement provisions to the Congress, and commends the Secretary of the Interior for recognizing the urgent need for the project.

(2) This body respectfully urges the Senate and House Interior and Insular Affairs Committee to approve the Auburn Dam and Folsom South Canal project, with provisions for enlargement of sufficient capacity to accommodate the contemplated East Side division of the Central Valley project, and Congress is respectfully urged to authorize such projects.

(3) This body respectfully urges the aforesaid congressional committees to approve the bills authorizing the aforesaid Auburn Dam and Folsom South Canal project immediately in view of the fact that apparently the conservation benefits from said project, without allocation of costs to recreation benefits, more than justify the construction.

(4) Copies of the resolution shall be sent forthwith to the Honorable Thomas Kuchel, U.S. Senator; the Honorable Clair Engle, U.S. Senator; the Honorable Harlan Hagen, Congressman, 14th Congressional District; the Honorable B. F. Sisk, Member of Congress; the chairman of the U.S. Senate Interior and Insular Affairs Committee; the chairman of the U.S. House of Representatives Interior and Insular Affairs Committee; the Honorable Stewart Udall, Secretary of the Interior of the United States; the Honorable Edmund G. Brown, Governor of the State of California; and to the Central Valley East Side Project Association.

#### RESOLUTION OF THE CLAY WATER DISTRICT, SACRAMENTO COUNTY, CALIF.

Whereas the Senate Committee on Interior and Insular Affairs is conducting hearings for the determination of legislative action authorizing the Auburn-Folsom south unit of the Central Valley project as outlined in studies prepared by the U.S. Bureau of Reclamation; and

Whereas the Clay Water District lies within the service area of the project an area whose farm acreage is endangered by a rapidly falling ground water table and by a lack of adequate surface water supply; and

Whereas the primary purpose for the formation of the district on January 17, 1956, was to secure supplemental irrigation sources which will be provided by the project: Now, therefore, be it

*Resolved*, That the board of directors of the Clay Water District gives its complete endorsement and full support to the proposed Auburn-Folsom south unit project and urges all appropriate action directed toward its early authorization and construction; be it further

*Resolved*, That certified copies of this resolution be forwarded to: The chairman, Senate Committee on Interior and Insular Affairs; the Honorable Thomas H. Kuchel, U.S. Senator; the Honorable Clair Engle, U.S. Senator; the Honorable John E. Moss, Congressman, 3d District, California; the Honorable John McFall, Congressman, 11th District, California; the Honorable Harold T. Johnson, Congressman, 2d District, California; California Water Commission; Sacramento County Board of Supervisors; and the Honorable Stewart Udall, Secretary of the Interior.

Passed and adopted this 16th day of December 1963.

JOHN S. GILL,  
President, Board of Directors  
WILBUR W. TROWBRIDGE,  
Secretary, Board of Directors.



RESOLUTION OF EXECUTIVE COMMITTEE OF KINGS RIVER WATER ASSOCIATION RE  
AUBURN DAM-FOLSOM SOUTH CANAL UNIT

Whereas the Kings River Water Association is an unincorporated association, the members of which are the following named irrigating agencies located in the Kings River service area on the eastern side of the San Joaquin Valley, Calif.:

|                                                        |                                          |
|--------------------------------------------------------|------------------------------------------|
| Alta Irrigation District                               | Laguna Irrigation District               |
| Burrel Ditch Co.                                       | Last Chance Water Ditch Co.              |
| Circle "L" Farms                                       | Lemoore Canal & Irrigation Co.           |
| Clark's Fork Reclamation District No. 2069             | Liberty Canal Co.                        |
| Cohn Central Consolidated Reclamation District No. 761 | Liberty Mill Race Co.                    |
| Consolidated Irrigation District                       | Peoples Ditch Co.                        |
| Corcoran Irrigation Co.                                | Reed Ditch Co.                           |
| Crescent Canal Co.                                     | Riverdale Irrigation District            |
| Empire West Side Irrigation District                   | Southeast Lake Water Co.                 |
| Fresno Irrigation District                             | Stratford Irrigation District            |
| James Irrigation District                              | Tranquillity Irrigation District         |
| John Heinlen Mutual Water Co.                          | Tulare Lake Basin Water Storage District |
| Kings River Water District                             | Tulare Lake Canal Co.                    |
|                                                        | Upper San Jose Water Co.                 |

and

Whereas the combined service areas of said members of the Kings River Water Association comprise an area of over 1 million acres, of which approximately 975,000 acres are under irrigation with water furnished by said members of the Kings River Water Association; and

Whereas said area is a water deficient area and the landowners therein are in serious need of supplemental water if they are to continue their farming operations on an economical basis; and

Whereas although many steps are being taken toward the development and conservation of water and water resources, these steps are not keeping pace with the expanding needs for agricultural and domestic water in the State of California and particularly the San Joaquin Valley; and

Whereas the proposed Auburn Dam-Folsom South Canal unit, with provisions for enlargement for east side use, would constitute a forward step in securing supplemental water: Now, therefore, be it

*Resolved*, That the Kings River Water Association, on behalf of itself and on behalf of its members above-named, hereby urges the Congress of the United States to authorize and construct the Auburn Dam-Folsom South Canal unit with provisions for enlargement for east side use as soon as possible; and be it further

*Resolved*, That copies of this Resolution be forwarded to members of the California congressional delegation and officials of the Department of the Interior and the Bureau of Reclamation.

Passed and adopted at a regular meeting of the executive committee of the Kings River Water Association this 19th day of November 1963.

ROBERT E. LEAKE, Jr., *Secretary*.

## RESOLUTION OF THE BOARD OF DIRECTORS OF THE TEA POT DOME WATER DISTRICT

Whereas Congress is presently reviewing proposed authorization and funding of Auburn Reservoir and Folsom South Canal, units which would allow the conservation of water presently wasting to the ocean for use in the water deficient areas of the east side of the central valley of California; and

Whereas these units, if authorized, would become keystones in the envisioned long-range development to be known as the East Side division of the Central Valley project; and

Whereas water is presently necessary to supplement the present fully committed supply available to the Millerton service area of the Central Valley project as attested by the numerous current applications for inclusion into districts presently served by this facility and which cannot be honored until new supplemental supply becomes available and also attested by the numerous other districts organized and waiting for supplemental water; and



Whereas Senators Engle and Kuchel and Congressman Hagen have been working diligently in furtherance of the authorization and funding of the Auburn Reservoir and Folsom South Canal units: Now, therefore, be it

*Resolved*, That this resolution of the board of directors of the Tea Pot Dome Water District be forwarded to our Senators and Congressman so as to reaffirm the district's support of their action and to once again set forth the interest of the district in securing additional supply so as to better serve its landholders and neighbors.

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RESOLUTION OF THE IRRIGATION DISTRICTS ASSOCIATION OF CALIFORNIA

Whereas the Secretary of the Interior, with the approval of the President of the United States, on October 21, 1963, sent to the Congress a supplement to his basic report transmitted January 15, 1962, recommending authorization of the Auburn-Folsom south unit of the Central Valley project to consist of the following principal features: Auburn Dam, Reservoir and powerplant and Folsom South Canal; and

Whereas the Secretary's report has been reviewed and approved by the State of California; and

Whereas the report demonstrates the engineering and economic feasibility for the unit, among other things demonstrating a very favorable benefit cost ratio of 3.71 to 1; and

Whereas Auburn Dam and Reservoir and powerplant, and Folsom South Canal will furnish urgently needed additional water supply in the American River watershed and areas in Sacramento and San Joaquin Counties, as well as other portions of the Central Valley of California and the San Francisco Bay area, and will produce power which would be available for irrigation pumping and for sale to public agencies; and

Whereas Auburn Dam and Reservoir will provide a high degree of flood control protection to areas downstream; and

Whereas the project will be directly beneficial to many members of the Irrigation Districts Association of California: Now, therefore, be it

*Resolved by the Irrigation Districts Association of California*, That it urge the Congress to authorize the construction of the Auburn-Folsom south unit of the Central Valley project by the enactment of S. 351; and be it further

*Resolved*, That the executive secretary be directed to send a copy of this resolution to the chairmen of the Senate and House Interior Committees and to the California congressional delegation.

This is to certify that the above is a true and correct copy of resolution adopted by the Irrigation Districts Association of California in convention assembled in Anaheim, Calif., November 22, 1963.

ROBERT T. DURBROW, *Executive Secretary*.

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RESOLUTION NO. 2674 OF THE CITY OF LODI

Whereas the city of Lodi is located in San Joaquin County, Calif., along the Mokelumne River; and

Whereas the city of Lodi does not have rights to water from the Mokelumne River for its municipal water supply, nor does it have prospects of securing such rights since all available water from said river has already been allocated; and

Whereas the city of Lodi is entirely dependent for its water supply upon the underground water table which has been declining; and

Whereas the City Council of the City of Lodi is aware of its obligation to the citizens of the community to provide water for future domestic and industrial consumption; and

Whereas Auburn Dam and Folsom South Canal will be sources of additional water to meet future needs of the city of Lodi; and

Whereas these facilities are necessary for the full development of the American River as a working part of the Federal Central Valley project; and

Whereas these facilities will provide additional benefits of flood control in the Sacramento-San Joaquin Delta area; and

Whereas the economy of the city of Lodi is largely dependent upon the maintenance of strong and prosperous agricultural activities in the areas surrounding the city; and



Whereas the City Council of the City of Lodi recognizes the urgency of providing additional water for the continued prosperity of much farmland in this area which is threatened by a rapidly falling ground water table; and

Whereas plans for water distribution in the agricultural areas are dependent on the Auburn Dam-Folsom South Canal project and cannot be finalized until the project is authorized: Now, therefore, be it

*Resolved*, That the City Council of the City of Lodi endorses the Auburn Dam-Folsom South Canal project as submitted to the Congress so that—

1. The city of Lodi will have an ample supply of water to meet its domestic and industrial needs; and

2. The agricultural economy of the areas adjacent to the city of Lodi will be maintained.

*Be it further resolved*, That the city of Lodi urges all appropriate action, particularly by the U.S. Senate Interior and Insular Affairs Committee, directed toward the early authorization and construction of the Auburn Dam-Folsom South Canal project.

I hereby certify that the foregoing Resolution No. 2674 was duly and regularly adopted by the City Council of the City of Lodi at a regular meeting thereof held Wednesday, November 6, 1963, by the following vote:

Ayes: Councilmen Brown, Culbertson, Dow, Ullmann, and Katzakian.

Noes: None.

Absent: None.

BEATRICE GARIBALDI, *City Clerk*.

NOVEMBER 6, 1963

#### RESOLUTION OF THE CITY OF GALT

Whereas the best means of furnishing a water supply to these service areas from storage on the American River would be by the construction of the Folsom South unit of the Central Valley project; and

Whereas the ever-increasing population pressure in Sacramento County and the Sacramento metropolitan area has resulted in a growing demand for meat and dairy products in these areas; and

Whereas, to increase total production of farm products to meet the growing demand, more irrigated acreage will be needed and this in turn requires an additional water supply; and

Whereas the ground water supply is lacking or the existing ground water is overdrawn; and

Whereas the U.S. Bureau of Reclamation has demonstrated in its report the economic and engineering feasibility of furnishing the necessary supplemental surface water supply to these service areas by the construction of the Folsom South Unit of the Central Valley project; and

Whereas the County Line Dam and Reservoir as an integral part of the Folsom South unit can furnish additional flood control and recreational benefits as well as provide a means of helping keep the agricultural, domestic and industrial development of the county of Sacramento in proper balance; and

Whereas construction of the Auburn Dam will further enhance the water supply available for use from the Folsom South Canal as well as furnish important flood control and recreational benefits: Now, therefore, be it

*Resolved*, That the City Council of the City of Galt, hereby strongly endorses the Auburn-Folsom South unit of the Central Valley project, which the Folsom South unit is an integral part, and urges early construction of the facility as a Federal reclamation project to assist in implementing an overall Sacramento County water development program necessary to serve rapid community growth related to a great extent to the national defense.

Passed and adopted by the City Council of the City of Galt, State of California, this 26th day of November 1963, by the following vote, to wit:

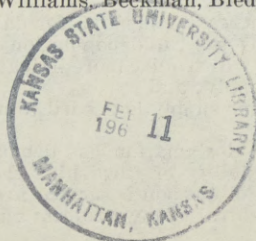
Ayes: Councilmen Williams, Beckman, Biederman, and Patterson.

Noes: None.

Absent: None.

BENNIE T. CASADO,  
*Mayor of the City of Galt.*

BERNICE SHELLEY,  
*City Clerk.*





150 AUBURN-FOLSOM SOUTH UNIT—CENTRAL VALLEY PROJECT

I, Bernice Shelley, city clerk of the City of Galt, Sacramento County, Calif., do hereby certify the foregoing is a full, true, and correct copy of a resolution adopted by the city council at a special meeting thereof held at its regular place of meeting at the time and by the vote above stated, which resolution is on file in the office of the said city council.

[SEAL]

BERNICE SHELLEY, *City Clerk of the City of Galt.*

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RESOLUTION No. 23 OF THE AMERICAN PUBLIC POWER ASSOCIATION ON  
AUBURN DAM

Whereas the Auburn Dam unit of the Central Valley project in California is now proposed for authorization and such unit will provide much needed power, irrigation, municipal water, and flood control: Now, therefore, be it

*Resolved*, That the American Public Power Association urges the Congress to authorize the Federal Government to construct and operate Auburn Dam as an integral unit of the Central Valley project of the U.S. Bureau of Reclamation.

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RESOLUTION No. 4222 OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT

Whereas the Secretary of the Interior has, under date of January 17, 1962, forwarded to the various affected committees of the Congress of the United States reports recommending the early authorization of the Auburn Dam-Folsom South Canal project and related units; and

Whereas the Sacramento Municipal Utility District serves one of the fastest growing areas in the United States and prognostications by all sources indicate this area will continue to grow at a rapid rate, necessitating new and adequate sources of electric power and water; and

Whereas the Sacramento Municipal Utility District, in a previous agreement with Placer County, has stated it would cooperate with said county to obtain authorization for the construction of the Auburn Dam and would assign to the construction agency certain water right applications held by the district: Now, therefore, be it

*Resolved by the Board of Directors of Sacramento Municipal Utility District:*

SECTION 1. That this agreement to assist Placer County be reaffirmed and that the Sacramento Municipal Utility District commend the Secretary of the Interior for recognizing the urgent need for Auburn Dam-Folsom South Canal project and related units as evidenced by the Secretary's recent recommendation to the Congress of the United States.

SEC. 2. That the Congress be urged to authorize promptly said project.

SEC. 3. That copies of the resolution be forwarded to U.S. Senators and Congressmen from this district, the Secretary of the Interior, Governor of the State of California, and the Auburn Dam Project Association.

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RESOLUTION No. 22 OF THE OMOCHUMNE-HARTNELL WATER DISTRICT

Whereas the Secretary of the Interior of the United States has transmitted to the President of the United States his report on the Auburn-Folsom south unit of the Central Valley project; and

Whereas the President has transmitted said report to the Congress of the United States; and

Whereas the demands on the ground water basin by lands in the Folsom south service area north and south of the Omochumne-Hartnell Water District has resulted in a large overdraft of this ground water basin and the continued lowering of the ground water level; and

Whereas, to meet the ever-increasing demand for dairy and beef products and other farm products, caused by the rapid population increase in the county of Sacramento metropolitan area, will require more irrigated acreage which, in turn, requires an additional water supply; and

Whereas a supplemental water supply is needed to meet this additional water supply; and

Whereas the U.S. Bureau of Reclamation has demonstrated in its report the economic and engineering feasibility of furnishing the necessary supplemental surface water supply to the Folsom south service area by the construction of the Folsom south unit of the Central Valley project; and



Whereas the Folsom Malby unit as an integral part of the Folsom south unit can furnish additional flood control and recreational benefits as well as provide a means of helping keep the agricultural, domestic, and industrial development of the county of Sacramento in proper balance; and

Whereas construction of the Auburn Dam will further enhance the water supply available for use from the Folsom South Canal as well as furnish important flood control and recreational benefits: Now, therefore, be it

*Resolved*, That the Board of Directors of the Omoichumne-Hartnell Water District hereby strongly endorses the Auburn-Folsom south unit of the Central Valley project, California, and urges early construction of the facility as a Federal reclamation project to assist the county of Sacramento in implementing an overall county water development program necessary to serve rapid community growth.

Passed and adopted by the Board of Directors of the Omoichumne-Hartnell Water District.

#### RESOLUTION NO. 29 OF THE OMOICHUMNE-HARTNELL WATER DISTRICT

Whereas the Secretary of the Interior of the United States has transmitted to the President of the United States his report on the Auburn-Folsom south unit of the Central Valley project; and

Whereas the President has transmitted said report to the Congress of the United States; and

Whereas the demands on the ground water basin by lands in the Folsom south service area north and south of the Omoichumne-Hartnell Water District has resulted in a large overdraft of this ground water basin and the continued lowering of the ground water level; and

Whereas to meet the ever-increasing demand for dairy and beef products and other farm products, caused by rapid population increase in the county of Sacramento metropolitan area, will require more irrigated acreage which, in turn, requires an additional water supply; and

Whereas supplemental water supply is needed to meet this additional water supply; and

Whereas the U.S. Bureau of Reclamation has demonstrated in its report the economic and engineering feasibility of furnishing the necessary supplemental surface water supply to the Folsom south service area as well as an interim supply to the Omoichumne-Hartnell Water District until such time as the Nashville Dam on the Consumnes River is completed by the construction of the Folsom south unit of the Central Valley project; and

Whereas the County Line Dam and Reservoir as an integral part of the Folsom south unit can furnish additional flood control and recreational benefits as well as provide a means of helping keep the agricultural, domestic, and industrial development of the county of Sacramento in proper balance; and

Whereas construction of the Auburn Dam will further enhance the water supply available for use from the Folsom South Canal as well as furnish important flood control and recreational benefits: Now, therefore, be it

*Resolved*, That the Board of Directors of the Omoichumne-Hartnell Water District hereby strongly endorses the Auburn-Folsom south unit of the Central Valley project, California, and urges early construction of the facility as a Federal reclamation project to assist the county of Sacramento in implementing an overall county water development program necessary to serve rapid community growth.

#### RESOLUTION NO. 2891 OF THE CITY COUNCIL, CITY OF NORTH SACRAMENTO, CALIF.

Whereas this Council feels that one of the most satisfactory means of furnishing an adequate water supply to nearby service areas from storage on the American River would be by the construction of the Folsom south unit of the Central Valley project; and

Whereas the ever-increasing population pressure in Sacramento County and the Sacramento metropolitan area has resulted in a growing demand for all types of farm products in these areas; and

Whereas additional irrigated acreage will be essential if total production of such farm products is to keep in step with burgeoning needs; and

Whereas the ground supply is not adequate even now to provide sufficient water to develop the needed acreage, and from all reports is becoming increasingly overdrawn; and



Whereas the U.S. Bureau of Reclamation has demonstrated in its report the economic and engineering feasibility of furnishing a supplemental surface water supply to these service areas by the construction of the Folsom south gait of the Central Valley project; and

Whereas the County Line Dam and Reservoir, as an integral part of the Folsom south unit, not only can play a major part in keeping the agricultural, domestic, and industrial development of the county of Sacramento in proper balance by supplying supplemental water, but also can provide other highly desirable benefits in the form of added flood control and recreational facilities: Now, therefore, be it

*Resolved by the City Council of the City of North Sacramento*, That it endorse and hereby does strongly endorse the Auburn-Folsom south unit of the Central Valley project, of which the Folsom south unit and the County Line Dam and Reservoir are an integral part; and be it further

*Resolved*, That said council hereby urges early construction of the facility as a Federal reclamation project, both to assist in implementing an overall Sacramento County water development program and to aid in developing resources vital to national defense.

Adopted by the City Council of the City of North Sacramento, State of California, this 9th day of December 1963.

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RESOLUTION NO. 198 OF THE CITY OF GALT, CALIF.

Whereas the best means of furnishing a water supply to these service areas from storage on the American River would be by the construction of the Folsom south unit of the Central Valley project; and

Whereas the ever-increasing population pressure in Sacramento County and the Sacramento metropolitan area has resulted in a growing demand for meat and dairy products in these areas; and

Whereas to increase total production of farm products to meet the growing demand, more irrigated acreage will be needed and this in turn requires an additional water supply; and

Whereas the ground water supply is lacking or the existing ground water is overdrawn; and

Whereas the U.S. Bureau of Reclamation has demonstrated in its report the economic and engineering feasibility of furnishing the necessary supplemental surface water supply to these service areas by the construction of the Folsom south unit of the Central Valley project; and

Whereas the County Line Dam and Reservoir as an integral part of the Folsom south unit can furnish additional flood control and recreational benefits as well as provide a means of helping keep the agricultural, domestic, and industrial development of the county of Sacramento in proper balance; and

Whereas construction of the Auburn Dam will further enhance the water supply available for use from the Folsom South Canal as well as furnish important flood control and recreational benefits: Now, therefore, be it

*Resolved*, That the City Council of the City of Galt hereby strongly endorses the Auburn-Folsom South unit of the Central Valley project, of which Folsom South unit is an integral part, and urges early construction of the facility as a Federal reclamation project to assist in implementing an overall Sacramento County water development program necessary to serve rapid community growth related to a great extent to the national defense.

Passed and adopted by the City Council of the City of Galt, State of California, this 26th day of November 1963.

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RESOLUTION OF THE CLAY WATER DISTRICT, SACRAMENTO COUNTY, CALIF.

Whereas the Senate Committee on Interior and Insular Affairs is conducting hearings for the determination of legislative action authorizing the Auburn-Folsom south unit of the Central Valley project as outlined in studies prepared by the U.S. Bureau of Reclamation; and

Whereas the Clay Water District lies within the service area of the project, an area whose farm acreage is endangered by a rapidly falling ground-water table and by a lack of adequate surface water supply; and



Whereas the primary purpose for the formation of the district on January 17, 1956, was to secure supplemental irrigation sources which will be provided by the project: Now, therefore, be it

*Resolved*, That the board of directors of the Clay Water District gives its complete endorsement and full support to the proposed Auburn-Folsom South unit project and urges all appropriate action directed toward its early authorization and construction; be it further

*Resolved*, That certified copies of this resolution be forwarded to:

The chairman, Senate Committee on Interior and Insular Affairs.

Hon. Thomas H. Kuchel, U.S. Senator.

Hon. Clair Engle, U.S. Senator.

Hon. John E. Moss, Congressman, Third District, California.

Hon. John McFall, Congressman, 11th District, California.

Hon. Harold T. Johnson, Congressman, Second District, California.

California Water Commission.

Sacramento County Board of Supervisors.

Hon. Stewart Udall, Secretary of the Interior.

Passed and adopted this 16th day of December 1963.









