Opening Remarks by Commissioner Gilbert G. Stamm

Before the Senate and House Subcommittees

On FY 1976 Appropriations

It is always a pleasure for me and my staff to appear before this committee. We are pleased to be back this year to discuss our 1976 budget request for the Bureau of Reclamation.

With the use of slides, I would like to briefly discuss three general areas with you: (1) our 1976 budget highlights, (2) a few of our program accomplishments, and (3) our recent appropriation history. We will then be pleased to discuss specific budget items and program issues in any detail you desire.

1976 Budget Highlights

We are requesting an appropriation of $598.4 million for 1976. This is $81.3 million greater than the $517.1 million for 1975, which includes a proposed $10.6 million supplemental appropriation.

We also are requesting $174.8 million for the July 1 to September 30, 1976, transition quarter to convert to the new fiscal year.

Of the $598.4 million total appropriation request, $420.7 million will be required for construction activities. This is an increase of $54.7 million over 1975. Operation and maintenance will require $131.8 million, an increase of $25.0 million. General
investigations including plan formulation studies and research activities will require $25.4 million, an increase of $1.1 million. Other activities including general administrative expenses, permanent appropriations, and emergency funds will require $25.4 million, representing a slight increase over the current year.

For the (Slide 6) transition quarter, funds are requested for the continuation of work underway in fiscal year 1976. This includes $127.4 million for construction, $33.7 million for operation and maintenance, $6.7 million for general investigations including research, and $7.0 million for other programs.

Construction

Construction (Slide 7) will continue on 69 projects. Twenty-seven of these are major construction projects, 24 are drainage and minor construction, ten are rehabilitation and betterment, and eight are small loans. Construction will be completed on ten projects in 1976.

Our construction program will continue to give high priority to projects whose major purposes are hydroelectric power and municipal and industrial water. Of the 27 major construction projects, ten have power and 11 have municipal and industrial water as a project function.

Over (Slide 8) 80 percent, or $341.3 million, of the total construction request is for ten projects as shown in this tabulation. Projects are listed by magnitude of appropriation request. All but one of these ten projects have power, municipal and industrial water, or both as a function.
Distribution System, the (Slide 2) San Luis Drain, and (Slide 13) the Pleasant Oaks Distribution System.

On the Columbia Basin Project, Washington, (Slide 17) work will be essentially completed on the Third Powerplant structure and the installation of the first three turbines and generators. Two units of 600,000 kilowatts each will be placed in service during the fiscal year. The first is expected to be on line by August 1975 and the second by April 1976. Construction will be initiated on four pump-generator units of 50,000 kilowatts each. Laterals will be completed and water will be available in the spring of 1976.

Work will (Slide 16) continue on the Granite Reef Aqueduct, (Slide 17) Buckskin Mountains Tunnel, and other features of the Central Arizona Project. The budget (Slide 18) also includes $17.4 million for liquidation of contract authority resulting from our commitment on the Navajo Project Participation Agreement.

The prime (Slide 19) contract for Pueblo Dam on the Fryingpan-Arkansas Project, Colorado, will be completed during the fiscal year. Construction (Slide 20) will continue on Cunningham Tunnel, (Slide 21) Mt. Elbert Pumped-Storage Powerplant second penstock, and on various transmission facilities. Initial power generation at the Mt. Elbert plant is scheduled for March 1977.
On the Pick-Sloan Missouri Basin Program, Transmission Division, construction will continue on the Watertown-Sioux City-Moville transmission line and terminal facilities, the Watertown-Brookings transmission line, and the Watertown systems operations office. Construction also will continue on the Hayden-Ault transmission line and substations of the Colorado River Storage Project. Construction will be initiated on these lines in the later part of fiscal year 1975.

Work will proceed on the desalting complex of the Colorado River Basin Salinity Control Project. Construction will continue on the main outlet drain extension siphon and contracts will be awarded for the desalting equipment and for construction of the bypass drain from Morelos Dam to the Mexican border. Construction, also will be underway on lining the Coachella Canal of the All American Canal System, California. (Construction.)

On the Teton Basin Project, Idaho, construction will continue on Teton Dam and power facilities. Initial storage is scheduled for October 1975 and initial power generation in June 1976.

On the Bonneville Unit of the Central Utah Project, Utah, construction will proceed on Vat and Stillwater tunnels and Currant Creek Dam and pipeline.

On the Palmetto Bend Project, Texas, construction will continue on Palmetto Bend Dam and the Highway 59 and Southern Pacific Railroad relocation will be completed. In this scene the Palmetto
Bend spillway and river channel are being studied by hydraulic models at our Engineering and Research Center in Denver to assure proper operation under unusual backwater conditions likely to be imposed by high tides during tropical hurricanes.

On the (Slide 10) Garrison Diversion Unit, North Dakota, the Snake Creek Pumping Plant will be completed and (Slide 7) work will continue on McClusky Canal. We also plan (Slide 8) to initiate construction on Lonetree Reservoir which will be formed by Lonetree Dam, Wintering Dam, and the James River Dike.

The Fish and Wildlife Service has proposed major improvements in the authorized plan for fish and wildlife development areas in the Garrison Diversion Unit. The improved plan emphasizes restoration of drained wetland complexes in small tracts scattered throughout the 25-county Garrison Conservancy District area rather than concentrating on providing a water supply to a few large areas in the immediate vicinity of project works as originally planned. The improved plan would provide significantly greater fish and wildlife benefits.

Our small projects program will require $15.5 million for eight projects. One of these (Slide 4) is the Central Nebraska Public Power and Irrigation District where this canal will be rehabilitated. Note how the eroded banks have been repaired in the past by using broken concrete and old car bodies.
A total of $5.7 million will be required for badly needed rehabilitation and betterment work on existing facilities. A typical example (Slide 35) is this farm lateral on the Rio Grande Project in Texas. Note the curves in the lateral alignment which contribute to low water use efficiency and higher maintenance costs. This view (Slide 36) shows the rehabilitation work on a lateral and this (Slide 37) view shows a lateral prism that has been excavated, shaped, and ready for lining.

We are not requesting any funds for starting new projects. However, we will have four new construction starts that were deferred from fiscal year 1975. These are (Slide 38) Dallas Creek, Colorado; (Slide 39) Fruitland Mesa, Colorado; (Slide 40) Savery Pot Hook, Colorado-Wyoming; and the (Slide 41) Jensen Unit, Utah.

Operation and Maintenance

The Bureau of Reclamation (Slide 42) operates and maintains on a permanent basis only power projects and reserved water supply works on multipurpose projects. Most operation and maintenance costs on these facilities are collected in advance from water users or are covered by power revenues. Completed (Slide 43) irrigation facilities are turned over to water user organizations for operation and maintenance as rapidly as practical. Pending completion of construction or until operating agreements are executed, the systems are operated by the Bureau with appropriated or advanced funds.

Replacements, (Slide 44) additions, and automation will be given high priority in our 1976 operation and maintenance program. About $15 million
of the $25.0 million increase over 1975 is primarily due to increases in requirements on older projects, new facilities, and inflation. The remainder (Slide 4/2) is for purchase power and wheeling primarily due to payments required for power needs of Central Valley Project customers in California.

In 1976, (Slide 4/3) the Bureau will operate and maintain 50 hydroelectric powerplants. Of these, 45 require appropriated funds. The 50 powerplants will have a total generating capacity of 9.1 million kilowatts; a net increase of 1.2 million kilowatts over 1975. This increase (Slide 4/4) is largely made up of the two new 600,000 kilowatt units which will begin operation at the Grand Coulee Third Powerplant in Washington. The Grand Coulee power complex, as now envisioned, will have a total capacity of some 10 million kilowatts when fully completed.

General Investigations

Our request (Slide 4/5) of $20.5 million for general investigations is to continue plan formulation and research activities. Appraisal, feasibility, and special investigations, totaling $12.3 million, will continue to emphasize energy, municipal and industrial water supply, and total water management potentials. This represents a reduction of about $300,000 below 1975.

We propose (Slide 4/6) to start four new investigations in 1976. These include the Upper Colorado Resource feasibility study and the Western Energy Expansion appraisal study which are energy related. The other
two are total water management studies which cover the Lahontan Basin and the Missouri River upstream from Gavins Point.

We are reviewing the potential for new land irrigation in view of the higher priorities that are evolving in agricultural production and its increasing importance to the national economy. We are emphasizing more efficient utilization of existing irrigation water supplies and studies related to rehabilitation and betterment of existing facilities.

Our geothermal resource investigations will continue in the Mesa Anomaly area in the Imperial Valley, California. Geothermal production wells have been drilled to depths of 6,000 to 8,000 feet and produce steam and brine of about 300°F at the surface. The product of the wells is being used for desalting testing.

Testing of two desalting units will continue in 1976 to provide data on plant operations, materials, scaling, corrosion, and environmental effects. High-quality fresh water has been produced from the geothermal brines on a test basis.

Studies also indicate that essentially the only heat required to desalt the brine is contained in the brine itself, leaving the steam free for electric power production.

Construction of a prototype desalting system consisting of one 500,000 gallon-per-day desalting module is scheduled for 1976. This system should be operational by 1978.
The Colorado River Water Quality Improvement Program investigations also will continue. These investigations are designed to develop plans to control future increases in the salinity of the river system. Emphasis is being placed on controlling salinity from point, diffuse, and irrigation sources.

Research activities totaling $8.2 million represent an increase of $1.4 million over 1975. This increase is primarily for new energy research and development activities and an expansion in atmospheric water resources management research.

The energy research and development program will include both geothermal and pumped-storage research. Geothermal research will focus on problems associated with the use of low-temperature brines and will demonstrate the feasibility of concurrent production of desalted water and electric energy from geothermal fluids. The pumped-storage research will evaluate present technology and develop new technology, equipment, and techniques to improve the efficiency, reliability, and versatility of pumped-storage installations. This research is expected to lead to increased use of pumped-storage hydrogeneration and contribute to more effective uses of all energy resources available for electric power generation in the Nation.

Major thrusts for 1976 in atmospheric water resources management research include: (1) implementation of field experiments to accelerate development of summer cloud seeding; (2) analysis of data from the 5-year Colorado River Basin Pilot Project and other experiments to provide an initial level of technology for seeding cold,
orographic clouds; (3) continued planning for the Sierra Cooperative Pilot Project to test large-scale snowpack augmentation in northern California; (4) (Slide 60) evaluation of socioeconomic, legal, and environmental aspects of precipitation management; and (5) development of guidelines for resolving major policy questions in the Colorado River Basin regarding marketing water supplies from weather modification.

Water resources planning and engineering research activities will continue at about the same level as in 1975. A practical example (Slide 61) of such research is this vibration test of a full-size concrete-polymer bridge slab in our Denver laboratories. This is a broad, flexible research program directed toward solving the immediate problems and needs of Bureau planners, designers, and project operators to effectively support the Bureau of Reclamation mission.

Program Accomplishments

Throughout the history of Reclamation, (Slide 62) about $6 billion have been invested in completed project facilities to develop and manage the water resources of the West for the benefit of millions of people. Over 86 percent of this investment is fully reimbursable to the Federal Treasury, by project beneficiaries. This past December, (Slide 63) the Strawberry Valley Water Users Association in Utah made its final payment on the Strawberry Valley Project, constructed by the Bureau of Reclamation some 60 years ago, including Strawberry Dam and Reservoir shown here.
These (Slide 67) horse-drawn, belly-dump wagons were used in 1906 to construct the Strawberry Dam which impounds 283,000 acre-feet of water and forms one of the best trout fishing reservoirs in the United States.

The dam (Slide 65) was constructed with a concrete cut-off wall in the center and the only power machine used was the steam driven compaction tractor. Our construction technology has progressed considerably since those days.

This aerial view (Slide 6) of Strawberry Reservoir shows the dam in the foreground and the fishing camps in the middle of the slide. Thousands of native cutthroat trout eggs are collected from the spawning fish each year. They are hatched, raised by the State Wildlife Resources Department, and then replanted in fishing waters throughout the State.

The (Slide 66) water stored in Strawberry Reservoir is released during the summer and fall months for irrigation use in Utah Valley. This water assures high yields and good cropping patterns in dry years such as last year when late season water was way below normal.

Forty-two thousand acres of land (Slide 67) receive water from the Strawberry Valley Project. It has created a pleasing greenbelt and a reliable agricultural industry. In 1973 alone, the gross value of crops harvested from project lands was $9.6 million or approximately $6 million over the initial investment. This Reclamation project has provided a strong economic base for the community, effective irrigation, and personal pride to many Strawberry water users.
Another interesting (Slide 68) feature of our operations last year was the sixteen millionth visitor to tour Hoover Dam. Lake Mead, (Slide 69) created by Hoover Dam, provides 822 miles of scenic desert shoreline when full. The lake provided recreation for nearly 5 million persons last year. Public recreation (Slide 70) use on Reclamation's 251 recreation areas total over 56 million visitor days annually. This exceeds the total visitation reported in 1973 for all 37 national parks in the United States.

Other major accomplishments of Reclamation projects last year include:

(Slide 71) Water deliveries totaling over 28 million acre-feet for the benefit of 16.6 million people, about 30 percent of the population of the 17 Western States. This includes municipal and industrial water deliveries of 608 billion gallons, an average of 112 gallons per capita per day for nearly 15 million people.

(Slide 72) About $42 million in flood damages averted.

(Slide 73) Over 49 billion kilowatt-hours of electricity marketed. Electrical energy revenues totaled $173 million.

(Slide 74) The gross value of all crops produced on irrigated lands totaled $3.9 billion, exceeding $3 billion for the first time in Reclamation's history. Irrigation assures stable crop production and (Slide 75) avoids crop damages due to drought conditions such as this experienced in many parts of the West this past year.
Appropriation History

We greatly appreciate the favorable actions (Slide 77) of this committee and of the Congress for granting increased appropriations the last few years as an investment in developing the water resources of the West. The appropriations for fiscal year 1973 and 1975 were the two largest of history.

Reclamation appropriations (Slide 78) had experienced a gradual decline from 1964 through 1970 when they dropped to 21 percent below the 1963 level. The trend began moving upward in 1971 and by 1973 it reached 52 percent above 1963.

Our national economy, as measured by gross national product (GNP), increased steadily by 137 percent during the years 1964 through 1974, an average of 12 percent per year. Total Federal budget outlays also increased steadily by 141 percent, an average of 13 percent per year.

This comparison (Slide 79) becomes even more pronounced when measured in real terms, that is when the effects of inflation are removed and the measurements are made on the basis of constant dollars. Bureau of Reclamation appropriations fell far short of keeping up with inflation. They dropped steadily each year through 1970 when they were 39 percent below 1963. They then turned upward and have now recovered to about the 1963 level in terms of constant dollars.
The real GNP still increased steadily by about 5 percent per year. Total Federal budget outlays increased at about the same rate during the first 5 years. They dropped slightly in 1969 and 1970 then leveled off, thus offsetting inflation and maintaining a constant level in real terms up through 1974.

Those years of low Reclamation appropriations caused severe construction stretchouts, inefficiencies, and costly price increases. Again, we appreciate your assistance by responding with more favorable appropriations which are now enabling us to be somewhat more responsive to the needs of people.

However, we are experiencing some difficulty in accomplishing our 1975 program particularly with the travel limitation established by the 1975 supplemental appropriation act, Public Law 93-554. This travel limitation is based upon the 1975 budget request and allows no travel for congressional write-ins. We are attempting to absorb some of this travel within our limitations; however, we have severe problems with many phases of the program. We have made some tough decisions and have limited travel in all categories to conserve our remaining ceiling for the highest priority items. This creates problems in meeting urgent operational needs.

When this limitation was established, we had already exceeded the ceiling for work associated with foreign activities and for programs financed by non-Federal contributions.
One reason for our having such a critical travel problem was because of our admonition to hold travel to a bare minimum. As a result, travel in our 1975 budget request already was limited. With the additional cutback, it becomes more difficult to meet some scheduled actions.

Reclamation (Slide 8/) will have a good budget with the 1976 request. It will be used effectively and it will bring many projects significantly closer to the day when they will start returning benefits. The construction funds requested will generate 19,600 man-years of employment throughout the Nation. This will include 6,700 man-years of contractors' on-site employment, 4,400 man-years of Government on-site and off-site employment, and 8,500 man-years of indirect off-site employment in the final stages of manufacturing the equipment, materials, and supplies used in construction. There also would be a significant amount of secondary interindustry employment in processing semifinished and finished materials and delivering them to the manufactures.

This (Slide 15/) concludes my opening remarks. We will now be pleased to answer any questions you may have.