STATEMENT OF
COLORADO RIVER ENERGY DISTRIBUTORS ASSOCIATION (CREDA)
Regarding
THE ROLE OF PUBLIC LANDS IN THE DEVELOPMENT OF A SELF-RELIANT ENERGY POLICY
Before the
COMMITTEE ON RESOURCES
Of the
U.S. HOUSE OF REPRESENTATIVES

Statement of Leslie James
Executive Director, CREDA
March 7, 2001

Mr. Chairman, members of the Committee, I am Leslie James, Executive Director of the Colorado River Energy Distributors Association (CREDA). I am pleased to have been asked to talk with you today regarding the Colorado River Storage Project, its role in the development of a self-reliant U.S. energy policy, and recent impacts on this federal project.

CREDA members (contractors) have entered into long-term, cost-based contracts with the Western Area Power Administration (WAPA), a power marketing administration of the Department of Energy, for purchase of federal hydropower resources of the Colorado River Storage Project (CRSP). These contracts provide for frequent rate adjustments in order to ensure repayment of the federal investment in the CRSP. Our purpose today is to provide some background on the facilities of the CRSP, to discuss the costs included in the CRSP rate, and to describe environmental and energy market impacts on both the federal government and CRSP contractors. First, a description of CREDA and its membership.

CREDA is a non-profit organization representing consumer-owned electric systems that purchase federal hydropower and resources of the CRSP. CREDA was established in 1978, and serves as the "voice" of CRSP contractor members in dealing with resource availability and affordability issues. CREDA represents its members in dealing with the Bureau of Reclamation (as the generating agency of the CRSP) and WAPA (as the marketing agency of the CRSP). CREDA members are all non-profit organizations, serving nearly 3 million electric consumers in the six western states of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming. CREDA members purchase over 85% of the CRSP power resource. Attached is a listing of current CREDA members. At the time CREDA was formed, the key issue for its members was the continuing increase in CRSP rates. CREDA members felt it would be more effective and efficient to have a single organizational "voice" for them in regard to rate, federal legislative and environmental issues impacting the CRSP.

CRSP contractors have been ensuring repayment of the federal investment for 30 years, by entering into long-term contracts to purchase the CRSP resource and by paying all of the federal investment in generation and transmission facilities (with interest), all power-related operation and maintenance costs, and environmental costs. In addition, the CRSP contractors are paying over 95% of the cost of the irrigation features of the CRSP (beyond the ability of the irrigators to pay). In fact, in the current CRSP rate, 35% of the total annual revenue requirement is due to irrigation assistance! It is important to note that the cost-based nature of the CRSP rate includes costs beyond simply those associated with generation of the hydropower resource. A further example is the cost of the Glen Canyon Adaptive Management Program (AMP) and the Upper Basin Endangered Fish Recovery Implementation Program (RIP). More detail on these costs will be provided below. Next, a description of the CRSP.

The Colorado River Storage Project (CRSP) was authorized in the Colorado River Storage Project Act of 1956 (P.L. 485, 84th Cong., 70 Stat. 50), as a multi-purpose federal project that provides flood control; water storage for irrigation, municipal and industrial purposes; recreation and environmental mitigation and protection, in addition to the generation of electricity. This testimony will focus on the major generation features of the CRSP, although there are several irrigation projects included in the Project. The CRSP power features include five dams and associated generators, substations, and transmission lines.

GLEN CANYON DAM

Glen Canyon Dam is located near Page, Arizona and is by far the largest of the CRSP projects. Glen Canyon Dam began operation in 1964. The water stored behind the dam is the key to full development by the Upper Colorado River Basin states of their Colorado River Compact share of Colorado River water. The Glen Canyon power plant consists of eight generators for a total of about 1300 MW, which is more than 70% of total CRSP generation. The ability of the Bureau to generate, and WAPA to market, the total generating capability of Glen Canyon Dam has been impacted over a period of many years, by various processes and laws. In 1978 the Bureau began evaluating the possibility of upgrading the eight generating units at Glen Canyon. This was possible primarily due to design characteristics of the generators and improved insulating materials. This upgrade was completed, and the generation was increased from about 1000 MW to 1300 MW. To fully utilize the unit upgrades would require the maximum release of water from Glen Canyon to be increased from 31,500 cubic feet per second (cfs) to about 33,200 cfs. The Bureau also studied the possibility of adding new units on the outlet works to provide additional peaking capacity. The possibility of increasing maximum releases from Glen Canyon raised concerns

with downstream users. After discussion with stakeholders, the Secretary of the Interior initiated the first phase of the Glen Canyon Environmental Studies.

In 1982, the Bureau began Phase 1 of the Glen Canyon Environmental Studies. These studies were primarily to analyze the impacts of raising the maximum release from 31,500 cfs to 33,200 cfs on the transport of sediment downstream from the dam, recreation (including fishing and rafting), endangered species (including the humpback chub in the Lower Colorado River), and the riparian habitat along the river banks. The studies proceeded during the early 1980's and were concluded in 1987. The general conclusion of the Glen Canyon Environmental Studies Phase 1 was that the dam had blocked much of the sediment coming down the Colorado River and therefore beaches were not being replenished with sand. Many questioned the results of the Glen Canyon Environmental Studies Phase 1 because the process did not in all cases follow good scientific practice. For instance, the impact on power and water economics was not fully explored.

After reviewing the Glen Canyon Environmental Studies Phase 1 and a review by the National Academy of Science, the Secretary of the Interior determined that the Glen Canyon Environmental Studies should be continued to address the economic impacts, particularly as they relate to power, and also to collect additional data to substantiate some of the conclusions in the Phase 1 report. Flooding during 1983-85 exposed Native American cultural sites in the canyon, so an inventory was necessary to identify these sites and recommend appropriate protection.

The Glen Canyon Environmental Studies Phase 2 was initiated in 1989. The Bureau of Reclamation decided to hire a Senior Scientist to assist with the development of the Phase 2 studies to assure an appropriate scientific process. The Bureau and the Senior Scientist developed Phase 2 studies, which included a series of test flows to evaluate the impact of different operating conditions and to develop response curves for various conditions. Many interested parties, including water, power, recreation, environment, and Native American interests participated in the process.

In July 1989, the Secretary of the Interior announced the start of an environmental impact statement (EIS) on the operation of the Glen Canyon Dam. No specific Federal action was identified for study. Meetings were held during 1990 to seek input into alternatives that should be considered, and the Bureau determined the nine alternatives (including a "no action" alternative) to be studied. Meanwhile, in 1992, the Grand Canyon Protection Act (106 Stat. 4672) was signed into law. Section 1804 of the Act required completion of the EIS within two years. The EIS was completed and the Record of Decision (ROD) signed in October 1996. The result was that Glen Canyon operations were changed to reflect a revised flow regime; approximately one-third of the generating capacity was lost (456 MW). The EIS identifies the annual financial cost to CRSP power contractors at $89.1 million per year. But this figure is in 1991 dollars and is probably 3-4 times greater today, given energy market conditions. The cost of the Glen Canyon EIS was approximately $104 million, and was funded by power revenues collected from the CRSP contractors. To date, over $134 million has been spent on Glen studies, and paid by CRSP power revenues. This figure does NOT include the nearly $8 million per year spent for the Adaptive Management Program.

The Act also recognized that with the changes in operation that resulted from the EIS, there ought to be a new look at how the costs of the Dam are assigned for repayment. Section 204(e) of the Act requires the Secretary of the Interior to implement a new allocation of costs, which would relieve power from some of those obligations commensurate with the loss of generating capacity. The new operating criteria were implemented in 1996, but the Secretary has yet to produce a cost study or to reallocate the costs as required by law.

In April of 2000, it was determined that, due to hydrologic conditions and requirements of a 1994 Fish & Wildlife Service biological opinion, a low flow summer experiment would be undertaken. The experiment included high spike flows in May and September, with low flat flows (8,000 cfs) all summer. The purpose was to gain information regarding endangered humpback chub conditions. The low, flat flows and hydrology, along with western energy market prices, had a severe impact on power generation, requiring CRSP customers, and WAPA, to purchase replacement power to meet their resource needs. The cost incurred by WAPA (and to be recovered from CRSP contractors) for this replacement power was $55 million, just for the summer. Twenty-four million dollars of this total is attributed to the low steady flow environmental experiment; the remainder is attributed to wholesale energy market prices. The cost of the experiment alone was over $3.5 million, funded by CRSP power revenues.

These figures do NOT include additional costs to CRSP contractors who had to purchase or supplement their CRSP resource with purchases from the energy market.

ADAPTIVE MANAGEMENT PROGRAM

CREDA participates on the Federal Advisory Committee charged with making recommendations to the Secretary of the Interior as to operations of Glen Canyon Dam pursuant to the Record of Decision and underlying laws. Funding for the program (Adaptive Management Program) is through CRSP power revenues. Proposed funding for next year's program will exceed $10 million. On October 27, 2000, President Clinton signed the FY 2001 Energy and Water Development Appropriations Act, which includes language (section 204) capping the amount of CRSP power revenues that can be used for the Adaptive Management Program at $7,850,000, subject to inflation. Without this cap, the annual program costs would have continued to increase, with power revenues being the sole funding source. Now, the program will need to seek appropriated dollars in order to maintain increased funding levels. CREDA supports seeking other sources of funding for this program. CREDA also participates on the Technical Work Group through our consultants, to ensure that good science and efforts to increase power production are considered.

CRSP contractors have paid, and continue to pay, the majority of costs at Glen Canyon, even while the Glen capacity has been depleted by about one-third, and there are significant operating constraints on the remaining available capability, as required by the 1996 ROD. CREDA is optimistic, however, that additional capability may become available to the CRSP contractors while still in compliance with the operating restrictions.

FLAMING GORGE DAM

Flaming Gorge Dam is on the Green River, a major tributary of the Colorado River, and is located near Vernal, Utah. Flaming Gorge has three units producing about 152 MW of generation. In 1992, the Fish & Wildlife Service issued a Biological Opinion on the operation of Flaming Gorge Dam. Two years ago, the estimated impacts to power generation since implementation of the Biological Opinion was $2.87 million per year. Approximately 26 MW have been lost to date due to changed operations to benefit endangered fish. During summer of 2000, the Bureau began the process of completing an EIS on proposed flow recommendations for endangered fish. The Bureau is attempting to keep a narrow scope on the recommendations, but some environmental groups are advocating the inclusion of an alternative to tear down the dam. Two CREDA members from Utah are "cooperating agencies" and, thus, are able to participate in the meetings with the federal agencies. The cost of the Flaming Gorge Dam EIS is expected to be $3 million, and could be completed within the next 18 months.

ASPINALL UNIT

The Aspinall Unit includes three dams and generating plants along the Gunnison River near Gunnison, Colorado. Blue Mesa is the first dam on the river and has two units producing about 97 MW. Morrow Point is the second dam in the series and consists of two generators producing a total of 146 MW. Crystal is the final dam and has one 32 MW generator. Morrow Point and Crystal Reservoirs allow some regulation of the river flow so that releases from Crystal can be used to regulate downstream flows as necessary. Since the early 1990's as part of the Upper Colorado River Endangered Fish Recovery Implementation Program, or RIP, studies have been undertaken to determine fish needs in this region. But NO studies have been completed to determine impacts on power generation! CREDA's interpretation of the Fish & Wildlife Service's flow recommendations is that they advocate a return to "natural", or almost pre-dam flow patterns. In our view, this goal is unattainable and unrealistic. The dams are there, the environment has changed, and efforts to recover fish should recognize those facts. The Fish & Wildlife Service's draft flow recommendations report has yet to be finalized.

Another looming impact on power generation on the Gunnison River comes with the filing by the National Park Service of a proposal to quantify reserved water rights for the Black Canyon of the Gunnison National Monument. This filing was made in Colorado Water Court on January 17, 2001. (Case No. W-437, District Court, Water Division No. 4, Colorado). CREDA has not yet completed its analysis of the impacts to power generation, but our preliminary indications are that the proposed flows associated with the water right quantification are

unachievable and will have a severe impact on power generation and existing water rights within the State of Colorado. Statements of opposition in this matter must be filed by March 30, 2001 in Colorado Water Court.

UPPER COLORADO RIVER ENDANGERED FISH RECOVERY IMPLEMENTATION PROGRAM (RIP)

The RIP was established through cooperative agreements among States and federal agencies in 1988 for a 15-year period to help recover four endangered fish in the Upper Colorado Basin. Power revenues currently fund about 60% of the base research / study program, which until recently required about $2.1 million per year. Authorizing legislation was passed in October 2000, which authorized a $100 million capital improvements p rogram. CREDA testified in support of this legislation in both House and Senate hearings. The legislation provides matching funds for the capital program so that, in the event State funding for the program ceases, so too does power revenue funding. The legislation had the support of the Upper Basin States, CREDA, federal agencies and some environmental groups. Why did CREDA support it? 1) It caps CRSP cost exposure; 2) unlike in the Grand Canyon, the States are contributing funding; and 3) also unlike in the Grand Canyon, the authorization expires in 2011 and the program will have to be reauthorized by Congress.

The legislation requires CRSP power revenue funding for monitoring and research of up to $6 million per year, with credits toward repayment. In addition, the Upper Basin States and CRSP power revenues will each contribute $17 million toward capital features. The legislation recognized that changes in operation of Flaming Gorge and Aspinall generation as a result of Biological Opinions cost CRSP contractors $2 to $5 million per year. Notwithstanding the passage of authorizing legislation for the RIP, CREDA still has concerns regarding ongoing impacts to operation of the Federal facilities. In addition, CREDA is concerned that there should be specific recovery goals established as soon as possible. Recovery should be achieved through the capital features of the RIP, not rely solely on dam operation adjustments.

THE WESTERN WHOLESALE MARKET

The power systems throughout the western United States are all interconnected and thus operate as one large integrated system. Electricity is the ultimate in "just in time" delivery, but this delivery creates a problem because large quantities of electricity cannot be stored for later use. Any time the load increases or decreases, a regulating generator must sense that change and immediately respond appropriately. The system has been designed to allow certain units to be "base" loaded, while a few of the units are allowed to "follow load" or regulate. This system has provided a very stable and reliable electric system. To enable reliable moment-by-moment system control, it is necessary to have contractual arrangements to address how the various entities will interrelate and account for the power and energy. These contractual arrangements can be very complex, but they provide a means of reconciling the system after the fact. Therefore, contractual arrangements may not necessarily follow the actual operation on a moment-by-moment basis, but the contracts allow the entities to operate within agreed upon guidelines so business can continue.

Hydro projects are ideal for "load following" and meeting peak demand because they can be easily and quickly adjusted to meet changing load. The federal hydro system historically has been used to follow the load within the region, while the larger, less flexible nuclear and coal-fired plants provide the base load requirements. It has also been possible for the output of the hydro projects to be reduced to a minimum at night to "save" the water in the reservoir for use the following day when peak loads require it. This integration of hydro and thermal resources provides the most efficient operation of the electric power system. Historically, WAPA has been able to reduce its hydro resources to the minimum level in the middle of the night (when most users are asleep and industrial loads are low) and use thermal resources, and then increase the hydro generation in the daytime to provide the peaking requirement and defer the addition by the customer of additional peaking or less efficient coal-burning resources. If the hydro resource is constrained by maximum and minimum flow and ramp rate releases, this flexibility and diversity is reduced. This also reduces the value of the hydropower, necessitates additional coal burning, possibly requires additional resources to be built, and raises the cost of to consumers due to the need to replace unavailable resources.

CRSP RATES AND MARKETING PROGRAM

When the federal reclamation projects were begun, they were designed, constructed, operated, and maintained by the Bureau . The Bureau also owned the transmission system and marketed the power from the projects. When WAPA was formed under the Department of Energy Organization Act in 1977, the design, construction, operation, and maintenance functions remained with the Bureau, and the transmission system and marketing responsibilities were moved to WAPA. Construction and capital projects are funded through the federal Treasury at the interest rate determined by Congress or at the time construction starts. These projects go through a budgeting process associated with the federal budget, and money is appropriated for these projects with congressional approval. As revenues are collected for the sale of federal power, there is a priority assigned to payment of obligations. The priority of repayment of the projects is that O&M expenses for WAPA and the Bureau are paid first and then repayment of the highest interest loans is made to the federal Treasury. The components associated with the power features are paid first, including the appropriate interest, and then the power revenues are used to pay the irrigation projects at no interest.

Each year WAPA compiles a "power repayment study" which estimates expenses of both the Bureau and WAPA, and is the basis for the CRSP rate. After WAPA has completed the power repayment study and if a rate adjustment is necessary, a public process is begun. This process includes a notice in the Federal Register that a rate adjustment is necessary, public information and comment meetings, and then the proposed rate is filed with the Federal Energy Regulatory Commission (FERC) for review. The rate can be put into effect on an interim basis while FERC reviews the rate, and if FERC concurs, the rate becomes final. FERC may also choose to remand (or send back) the rate.

In July 2000, CREDA was pleased to learn that through our 1992 Work Program Review process (a contractual arrangement among CREDA, the Bureau and WAPA), WAPA would defer a rate increase until 2001. However, as indicated in a November 8, 2000 Federal Register notice (65 FR 66995) due to low hydrology, high purchased power costs and the impacts of the Glen Canyon low flow experiment, WAPA announced it is in a severe cash flow situation and would have to consider a rate "adder". CRSP financial obligations are paid from the CRSP Basin Fund, a revolving fund in the United States Treasury, which is greatly impacted by high purchased power prices. The replacement and firming power purchased by WAPA on behalf of the CRSP contractors is paid for from this Fund. Clearly, the significant increase in energy prices over the past 9 months has had a severe impact on the Basin Fund cash flow. The proposed "adder" would have amounted to a 62% increase in the CRSP rate. Under other, "worst case" hydrologic scenarios, this increase could have been as high as a 187% increase in the first year. As proposed, the increase would have translated to an approximately $57 million impact to CREDA members in the first year alone. WAPA is currently exploring alternatives to the "adder". The effects on the CRSP rate from the western energy market are staggering. For instance, in a "normal" operating year, WAPA purchases approximately $6 million worth of purchased power to firm up the CRSP resource commitments. This winter season, however, WAPA's purchased power requirements for CRSP are $71 million!

The original CRSP contracts expired on September 1, 1989. WAPA completed an Environmental Impact Statement (EIS) on the Post-89 Marketing Criteria. Contract amendments were executed which reflected changes in the operation of the CRSP facilities, and provided options for the CRSP contractors in terms of whether they desire to make up the "shortfall" themselves, or whether they desire to have WAPA purchase on their behalf and pass through the associated costs.

Changes to the amount of CRSP resources available to CRSP contractors began again in April 1998. The changes were made in the contracts to reflect the changed operating conditions at Glen Canyon Dam. In addition, in late 1998, the Department of Energy (DOE) was asked to begin the process to extend the CRSP and Central Valley contracts beyond 2004. Following this process, at the direction of newly appointed DOE Secretary Bill Richardson, a public process began to determine how much of the existing CRSP resource should be "set aside", primarily for Native American allocations. In June, 1999, WAPA published a Federal Register notice (64 FR 34414, June 25, 1999) indicating that in the post-2004 CRSP contract extensions, CRSP allocations would be reduced up to 7% to create a pool of power to be allocated to Native American and new customers. Preceding this decision, departing DOE Secretary Elizabeth Moler posed a series of questions for public comment regarding allocation of and use of federal hydropower resources by preference entities in a deregulated environment (63 FR 66166, December 1, 1998). Ultimately, DOE found no change was required of WAPA's marketing criteria, which

to CREDA reaffirmed the concept that the cost-based rates and marketing criteria associated with the CRSP are still relevant, possibly even more so, in a deregulated environment. WAPA is currently negotiating the "post-2004" contracts with new applicants for the CRSP resource. In essence, CRSP contractors have experienced a reduction in the amount of CRSP resource available to them through both operational and administrative processes. They are now facing significant rate impacts due to the effects of hydrology and energy market conditions in the west.

THE "CALIFORNIA" CRISIS AND CRSP

The western energy market "price crisis" is affecting all CRSP contractors and WAPA. Reduced operational levels at CRSP facilities, due to environmental constraints, have caused WAPA and the contractors to be out "in the market" having to purchase resources to meet contractual obligations and to serve load. This is the same energy market from which California entities are buying.

The CRSP resources are marketed by WAPA pursuant to law and marketing plans within a legally defined marketing area, on a firm basis to preference entities. And yet, by Presidential and DOE directives issued during 2000, WAPA was called upon on September 18, 2000 and again on February 15, 2001, to "ramp up" Glen Canyon to assist the California Independent System Operator avoid blackouts. Although sympathetic to the energy situation in California, CREDA has some serious concerns with a requirement that CRSP resources be made available to California. CREDA's concerns are operational, legal and financial. Current hydrologic conditions in the Colorado Basin indicate the potential for another dry summer. Water released this spring may not be recoverable when so desperately needed to meet summer peak demands. CRSP resources are committed under long-term, cost-based contracts with a legally defined group of contractors, who are located within a legally established geographic marketing area. From a financial standpoint, the CRSP contractors are the "guarantors" of federal repayment investment in the CRSP. Given the current financial situation of California power purchasers, CREDA believes the CRSP contractors must be provided protection from financial impacts which may result from Presidential or Administration directives which require WAPA to sell into the California market.

CONCLUSIONS AND RECOMMENDATIONS

- In any self-reliant, comprehensive Energy Policy, the unique roles and responsibilities of the federal power marketing administrations must be recognized and maintained. CRSP resources are marketed under long-term, cost based contracts and guarantee repayment of the federal investment in power facilities as well as its very sizeable investment in irrigation projects.
- CRSP contractors must not be responsible for operational, legal or financial impacts associated with the federal government's assistance to California.
- The Fish & Wildlife Service recommendations for flows to federal hydropower operations in order to benefit endangered fishes must be based on peer-reviewed, sound science, in consultation with all relevant stakeholders, and should take into account elements of federal energy policy and economic impacts. There must be a balance between costs and impacts.
- Federal hydropower facility operating agencies should be encouraged to maximize production from those facilities, recognizing existing legal constraints.

CREDA thanks the Committee for the opportunity of providing this information and appearing today.

COLORADO RIVER ENERGY DISTRIBUTORS ASSOCIATION (CREDA) MEMBERSHIP

ARIZONA

Arizona Municipal Power Users Association
Arizona Power Authority
Arizona Power Pooling Association
Irrigation and Electrical Districts Association
Navajo Tribal Utility Authority
(also New Mexico, Utah)
Salt River Project

COLORADO

City of Colorado Springs
Intermountain Rural Electric Association
Platte River Power Authority
Tri-State Generation & Transmission Cooperative
(also Nebraska, Wyoming and New Mexico)
Yampa Valley Electric Association, Inc.

NEVADA

Colorado River Commission of Nevada
Silver State Power Association

NEW MEXICO

Farmington Electric Utility System
Tri-State Generation & Transmission Cooperative
City of Truth or Consequences

UTAH

City of Provo
Strawberry Electric Service District
Utah Associated Municipal Power System
Utah Municipal Power Agency

WYOMING

Wyoming Municipal Power Agency

AFFILIATE MEMBER

Navopache Electric Cooperative (Arizona)