CAP
CENTRAL ARIZONA PROJECT

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Testimony
Joint Hearing
Water and Power Subcommittee
Indian and Alaska Native Affairs Subcommittee
Oversight Hearing on
"Protecting Long-term Tribal Energy, Jobs and Keeping Arizona Water and Power Costs Affordable: The Current and Future Role of the Navajo Generating Station"
May 24, 2011

As General Manager of the Central Arizona Water Conservation District (CAWCD), I thank Chairman McClintock and Chairman Young, Ranking Member Napolitano and Ranking Member Boren of the Subcommittees, and other members of the two Subcommittees for the opportunity to testify today in this Oversight Hearing on "Protecting Long-term Tribal Energy, Jobs and Keeping Arizona Water and Power Costs Affordable: The Current and Future Role of the Navajo Generating Station."

CAWCD, commonly referred to as the Central Arizona Project (CAP), was established in 1971 as the state agency that manages and operates the CAP system, collects revenues from ratepayers and, since substantial project completion in 1993, repays the federal government for the reimbursable costs of construction. Our goal at CAP is to provide an affordable, reliable and sustainable supply of Colorado River water to cities, industries, farms, and Tribal communities in a service area that includes more than 80 percent of Arizona's population. We have successfully achieved this goal for the past 25 years.

Background

Central Arizona Project, constructed by the Bureau of Reclamation (BOR) for the State of Arizona, is a multi-purpose water resource development and management project that delivers Colorado River water into central and southern Arizona. The largest supplier of renewable water in Arizona, CAP delivers an average of over 1.5 million acre-foot of Arizona's 2.8 million acre-foot Colorado River entitlement each year to municipal and industrial users, agricultural irrigation districts, and Indian communities (see attached map). CAP meets approximately 50 percent of municipal demand within its service area, including 45 percent of the City of

Phoenix's total water demand and more than 50 percent of the City of Tucson's water demand. In addition, 47 percent of the long-term CAP entitlement is dedicated to Indian Tribal use, while 41 percent of current CAP deliveries support non-Indian agricultural production.

These renewable water supplies are critical to Arizona's economy and to the economies of Native American communities throughout the state. Nearly 90% of economic activity in the State of Arizona occurs within CAP's service area. CAP also helps the State of Arizona meet its water management and regulatory objectives of reducing groundwater use and ensuring availability of groundwater as a supplemental water supply during future droughts. Achieving and maintaining these water management objectives is critical to the long-term sustainability of a state as arid as Arizona.

CAP infrastructure includes a 336-mile-long delivery system that moves water 3,000 feet uphill from the Colorado River. The system entails 14 pumping plants and one combination pumping/generating facility; 10 siphons that carry water under riverbeds and washes; three tunnels; more than 45 turnouts that connect the CAP aqueduct with customers' water delivery systems; a large storage reservoir; and a state-of-the-art control center. A large and reliable supply of baseload power is essential to operating CAP infrastructure and delivering water to its customers, including potable water treatment plants that must supply drinking water to millions of Arizona residents every day.

CAP construction necessitated the development of new power generation facilities to provide a dedicated energy source for the operation of the system. The Colorado River Basin Project Act allowed the federal government to participate in the non-federal Navajo Generating Station (NGS), near Page, Arizona, to provide power for pumping CAP water as an alternative to building additional dams along the Colorado River. Construction of NGS was the result of an environmental compromise brokered by then-Secretary of the Interior Stewart Udall. NGS also was intended to help maintain and improve the economies of the Navajo Nation and the Hopi Tribe by providing revenues for the Tribal governments and high-paying jobs for Tribal members.

NGS was constructed by the Salt River Project Agricultural Improvement and Power District of Arizona, now part of the Salt River Project (SRP). In addition to BOR and SRP, other participants in NGS are NVEnergy (formerly Nevada Power Co.), Tucson Electric Power Co., and Los Angeles Department of Water and Power. In addition to providing CAP pumping energy, NGS also provides electricity to retail customers in Arizona, Nevada and California. BOR's share of NGS's annual output is 24.3 percent, or 546,750 kilowatts per year for the benefit of CAP.

CAP maintains an ongoing, constructive dialogue with BOR and other federal agencies, including the Environmental Protection Agency, to discuss issues of mutual interest and concern. CAP also works closely with its customers regarding their needs and concerns. Our ongoing focus includes collaborative efforts to:

- Manage water resources sustainably in partnership with CAP customers, BOR, the Colorado River states, and other stakeholders to assure long-term, affordable supplies of water;
- Maintain access to critical energy supplies, including working collaboratively with the NGS participants to reduce plant air emissions and to explore clean-energy options for the future;
- Work with Tribes and other State and Federal parties, as appropriate, to fulfill provisions of Indian water rights settlements; and
- Collaborate with other agencies on data- and information-sharing on water quality issues facing the Lower Colorado River.

In addition, CAP is currently evaluating and adopting management practices focused on energy conservation including the "maintenance excellence program" which strives to maximize efficiency of the pumping and operating systems; an extensive waste management recycling system; "Green Fridays," a modified work schedule that limits the use of the facility one day a week to reduce energy costs.

Navajo Generating Station – Decisions that Impact Water and Power Costs

Regulatory Issues*:* NGS is near numerous national parks, monuments, and wilderness areas, and controlling plant emissions has been and still remains a priority for CAP and the NGS participants. Pursuing that commitment, in the1990's NGS participants invested more than $400 million in scrubbers to reduce sulfur dioxide emissions. In 2008, the plant began voluntary installation of additional environmental controls to reduce smog-forming nitrogen oxide (NOx). Installation of those emissions controls is now complete. The low-NOx burners with separated over-fire air (LNB/SOFA) cost approximately $46 million for installation on all three units at NGS. This price tag translates into expected increases in CAP energy rates of about 1 percent.

Despite these ongoing investments in air quality improvements, NGS is now the focus of additional proposed regulatory requirements. The U.S. Environmental Protection Agency (EPA) is in the process of setting new rules to control NOx emissions at coal-burning power plants, including NGS, under the Regional Haze Rule of the Clean Air Act. CAP has been doing its part to support improvements in air quality and visibility associated with NGS. It is important to note, however, that the Clean Air Act identifies factors such as compliance costs, the remaining useful life of a facility, the degree of visibility improvements that might reasonably be anticipated from the use of existing technology, and other considerations in determining the

appropriate technology to achieve improved visibility. CAP urges full consideration of these factors by the EPA in their regulatory decision making regarding the NGS.

***Potential Regulatory Impacts**:* While EPA is looking at low-NOx burners such as those now installed at NGS, the agency is also considering a different control system known as Selective Catalytic Reduction (SCR). In comparison to the cost impact of low-NOx technology, SCR units alone would result in a 17% cost increase in CAP energy rates. The SCR system, combined with baghouses (which may be needed for downstream particulate control), has a potential price tag of more than $1 billion, as much as 20 times the cost of low-NOx burners. If the SCR/baghouse option is required at NGS, CAP energy rates could climb 33 percent higher than 2010 rates (or even higher if financing of less than 20 years is required). In both instances, these higher energy costs would affect water rates for the majority of Arizona's population. Agricultural water users, both Indian and non-Indian, would be particularly hurt by these higher rates.

Impacts from such regulatory requirements extend beyond the increased costs for energy and water. As authorized by Congress, NGS power not used for CAP pumping is sold to help repay CAP construction costs and to help fund Arizona Indian water rights settlements. These amounts are not trivial. Revenues from the sale of surplus NGS power now contribute about $22 million per year toward the $57 million in annual repayment obligations for the CAP. In the future, new contracts for the sale of surplus NGS power are expected to contribute $50 million or more per year toward CAP repayments and toward Indian water rights settlements, including those approved by Congress in the 2004 Arizona Water Settlements Act.

The extremely high costs of the SCR/baghouse option could jeopardize continued operation of the NGS facility, with severe economic impacts to CAP users and to the Navajo Nation and the Hopi Tribe. Because a number of critical uncertainties face the Navajo plant, including the renewal of land and water leases and future federal air quality regulations, a near-term requirement to install SCR at Navajo raises a risk of plant closure. The NGS partners operate the Navajo plant as a revenue-generating business. Rather than risk a huge and potentially unrecoverable investment in retrofitting the plant with SCR technology prior to the resolution of these uncertainties, NGS participants have indicated they may pursue the path of closing the plant and meeting their energy needs through other means. As a consumer of NGS power rather than a retail marketer of power, CAP would be catastrophically impacted by closure of NGS, as would a number of Arizona Indian tribes.

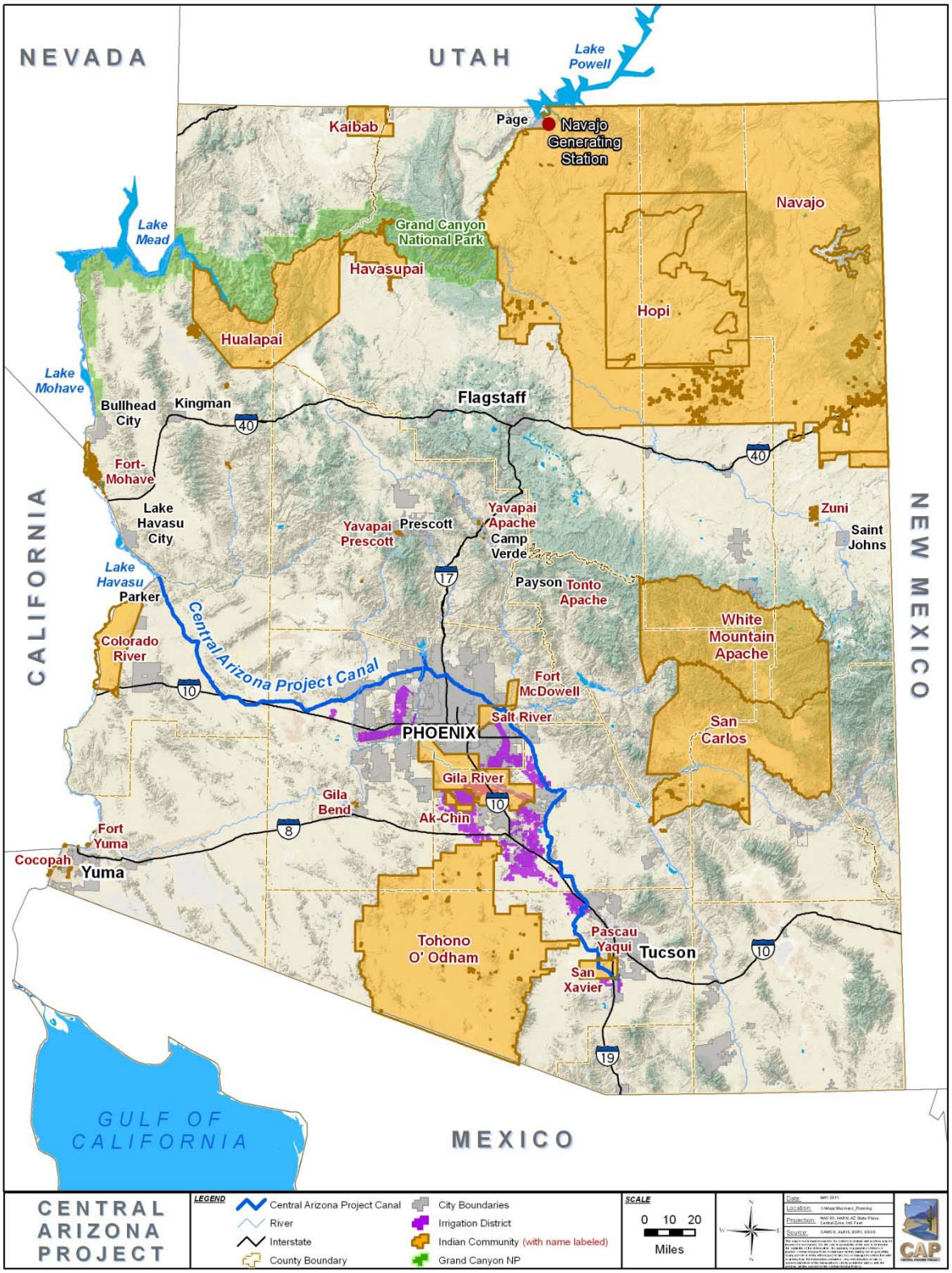
- Should the NGS facility cease operations, CAP would have to acquire a substitute source of pumping power at market rates. Using several forecasts, CAWCD estimates that CAP pumping energy costs could increase by 50 to 300 percent (rising from $65 per acre foot to $95 - $180 per acre foot) by 2017.

- NGS employs 545 full-time employees, nearly 80 percent of whom are Navajo. The Kayenta Mine, which supplies coal to the plant, employs another 422 Tribal members. In 2010, the power plant and mining operations contributed $137 million in revenue and wages to the Navajo Nation and its Tribal members and $12 million annually (88 percent of the Tribe's annual operating budget) to the Hopi Tribe.
- Indian Tribes would lose access to millions of dollars from the sale of surplus NGS power that otherwise could be available to assist with implementing their water rights settlements.
- Agricultural users of CAP water could find the use of CAP water uneconomical. Non-Indian agricultural users could be forced to return to unsustainable groundwater pumping. Tribal users, having accepted delivery of CAP water in lieu of pursuing their claims to other water rights including groundwater, could find their newly-developed agricultural enterprises to be worthless investments.

Collaboration and Information: CAP, along with other interested stakeholders, has participated since January 2011 in a series of collaborative dialogues to identify reasonable solutions that would: 1) meet the energy needs of CAP so that the project can fulfill its mission of providing affordable and reliable water supplies to Arizona and Tribal communities; 2) result in continued reductions in regional haze; 3) uphold provisions of the 2004 Arizona Water Settlements Act; and 4) expand clean energy opportunities, including use of renewable energy. To date, these discussions continue but have not resulted in a consensus solution.

In addition, the Department of the Interior, working with the Department of Energy and the National Renewable Energy Laboratory, is drafting a proposal to undertake a study of energy infrastructure development within the Colorado Plateau region of the Hopi and Navajo reservations. CAP supports initiation of this study. Pumping of CAP water requires large amounts of baseload power to meet the project's 24/7 operational requirements. ***No options exist now or in the immediate future of sufficient scale to supply the baseload power needs of the energy supply for CAP at a reasonable cost***. This proposed study could provide critical information and analysis to assist CAP in evaluating and planning for future energy needs.

In conclusion, CAP's mission to provide reliable, renewable and affordable water supplies to its municipal, industrial and Indian and non-Indian agricultural customers is a multi-faceted and highly collaborative effort. Continued access to consistent and reasonably-priced energy supplies is critical to the operation of the CAP system. Until renewable energy alternatives mature to the point where they can provide continuous baseload supplies, the NGS will remain essential to the CAP and its customers. I welcome the opportunity to discuss these issues with you, and I extend an invitation to all members of the Subcommittees to visit the Central Arizona Project at an appropriate time.


NEVADA
UTAH
CALIFORNIA
NEW MEXICO
MEXICO
GULF OF CALIFORNIA
Lake Powell
Page
Navajo Generating Station
Kaibab
Navajo
Grand Canyon National Park
Lake Mead
Havasupai
Hopi
Hualapai
Lake Mohave
Bullhead City
Kingman
Flagstaff
Fort-Mohave
Lake Havasu City
Yavapai Prescott
Prescott
Yavapai Apache
Camp Verde
Zuni
Saint Johns
Lake Havasu
Parker
Payson
Tonto Apache
White Mountain Apache
Colorado River
Central Arizona Project Canal
Fort McDowell
Salt River
PHOENIX
San Carlos
Gila River
Gila Bend
Ak-Chin
Fort Yuma
Cocopah
Yuma
Pascau Yaqui
Tucson
Tohono O' Odham
San Xavier
CENTRAL ARIZONA PROJECT
LEGEND
Central Arizona Project Canal
River
Interstate
County Boundary
City Boundaries
Irrigation District
Indian Community (with name labeled)
Grand Canyon NP
SCALE
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