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Testimony before the Senate Committee on Environment and Public Works, Subcommittee on Transportation and Infrastructure

on

"Perspectives on New and Existing US Army Corps of Engineers Authorities to respond to Water Management Issues including drought and water conservation"

2:30pm, May 16th, 2023

Chairman Kelly, Ranking Member Cramer and members of the Subcommittee, my name is Leslie Meyers and I am the Associate General Manager and Chief Water Executive at Salt River Project (SRP). Thank you for the opportunity to testify today on opportunities for new and existing U.S. Army Corps of Engineers (USACE) Authorities to respond to water management issues, including drought and water conservation. SRP has a long history of working with tribal, local, state, and federal government entities to find water management solutions, including working closely with USACE, the Bureau of Reclamation (Reclamation) and other federal agencies.

The Salt River Project

SRP was formed at the turn of the 20th century to contract with the federal government for the construction of Theodore Roosevelt Dam, and other components of the Salt River Federal Reclamation Project. SRP manages and operates seven dams and reservoirs throughout Arizona, 1,300 miles of canals, laterals, ditches, and pipelines to deliver water to approximately 250,000 acres of land in the greater Phoenix area. The dam and reservoir system can store approximately 2.3 million acre-feet (AF) of water runoff from the Salt and Verde rivers and East Clear creek systems.

SRP is the third largest not-for-profit community based public power entity in the country, providing sustainable, reliable, and affordable electricity to nearly 3,000,000 people in Arizona. SRP is also the largest raw water provider in the Phoenix Metropolitan area.

History of Theodore Roosevelt Dam

Theodore Roosevelt Dam (Roosevelt Dam) was originally constructed as a water storage and power generation facility that remains a critical source of stored water for irrigation, municipal and industrial uses, and hydroelectric power generation to the Phoenix Metropolitan areas since its completion in 1911. Reclamation undertook a $430 million modification project on the dam from 1989-1996, raising it 77 feet in elevation and creating three distinct storage pools as shown in Figure 1. The modification increased the water conservation storage capacity by 20%, added 556,000 AF of dedicated flood control space (FCS), and 1,220,000 AF of Safety of Dams (SOD) surcharge capacity to address dam safety concerns identified by analysis of the potential probable maximum flood within the Salt River basin. Roosevelt Dam is owned by Reclamation, operated by SRP, and the FCS is under the jurisdiction of the USACE in accordance with Section 7 of the 1944 Flood Control Act. The current flood control plan for the FCS requires that SRP evacuate water entering the FCS within 20 days. These operating criteria are described in the USACE Water Control Manual (WCM) for Roosevelt Dam and have remained unchanged since 1997.

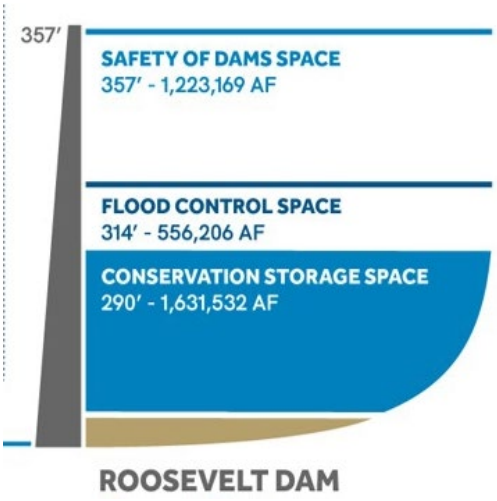

Figure 1. Dedicated Storage Spaces within Roosevelt Dam

The dedicated FCS and SOD capacity within Roosevelt Dam have been important federal investments to protect the robust downstream economy of America's fifth largest city and support the management of reliable water supplies. SRP, Reclamation, and USACE have proven to be strong partners with an ability to coordinate effectively. However, operating a multi-purpose reservoir under two federal jurisdictions presents challenges. As SRP prepares its water storage and delivery system and operating plans for an increasingly variable water future and

the effects of climate change, efficient coordination and decision-making with our federal partners will only become more important.

Need for System and Operational Flexibility

Studies anticipate the Salt and Verde rivers will produce increasingly variable annual flows for two already highly variable river systems. Projections predict a hotter and drier climate that has higher variability in river flows, including wetter wet periods and sharper, deeper drought periods. This variability requires that SRP prepare to adapt its operations quickly from drought conditions to very wet conditions. At the same time, future reductions and variability in the availability of Colorado River water brought to central Arizona through the Central Arizona Project canal creates a need to use all water available on the Salt and Verde rivers effectively. Figure 2 shows SRP Water Service Area (WSA) relative to the boundaries of the cities in the Phoenix Metropolitan area. The areas outside of SRP's WSA are primarily dependent on the Colorado River, requiring water providers to plan back-up supplies for years when Colorado River supplies are reduced or unavailable. The water supplies made available by improved operational flexibility within the Roosevelt Dam FCS is eligible for use outside SRP's WSA and will be used to help water providers in central Arizona back up water supplies from the Colorado River in shortage years.

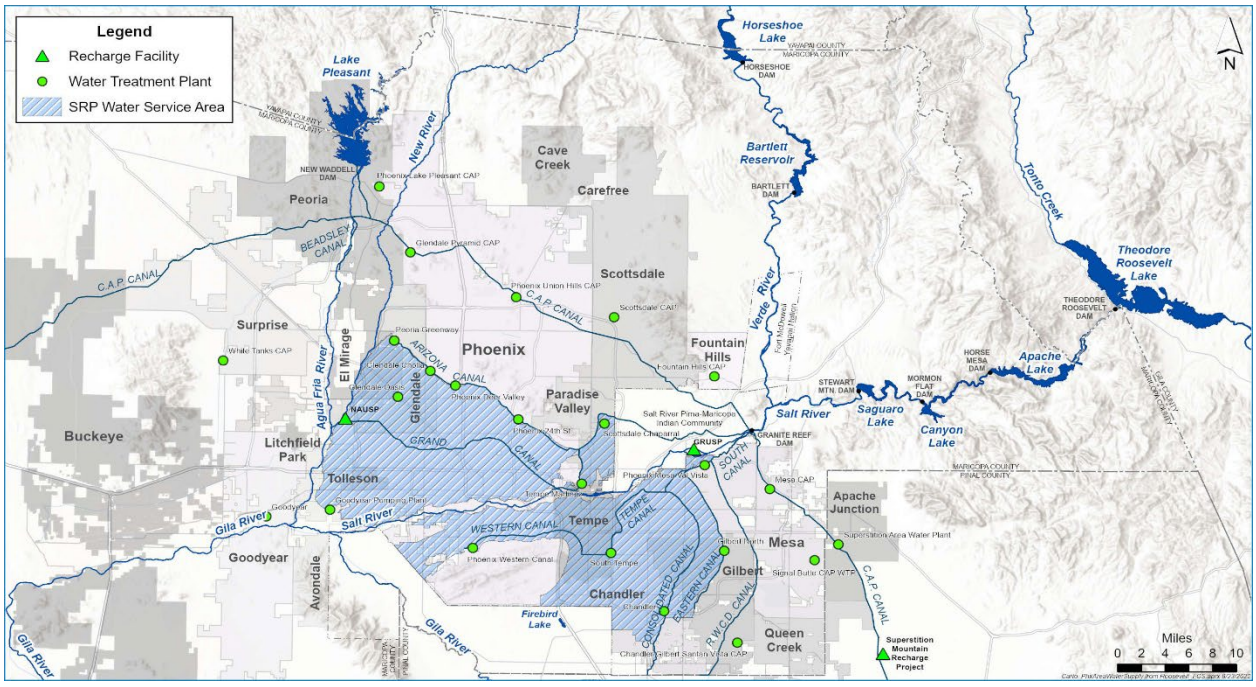

Figure 2. Phoenix Area Water Supplies and SRP Water Service Area

The flood control plan described in the Roosevelt Dam WCM ensures that SRP can operate the dam safely under the most extreme flood events that could occur on the Salt River. However, the plan also requires SRP to unnecessarily sacrifice water that could be put to use

under small and moderate flood conditions. Increased operational flexibility and effective multi-agency coordination will be increasingly important for maintaining safety while carefully managing our precious water supplies.

Existing USACE Authorities to Support Operational Flexibility

SRP appreciates the direction Congress provided in Section 1118 of the Water Resources Development Act (WRDA) of 2016, which authorized USACE to accept non-federal funds from non-federal entities to collaborate with such entities to review flood operating plans to improve water management, while maintaining flood and dam safety. Roosevelt Dam, with its decades old WCM, is a prime example of a facility that can benefit from revisiting the flood operating plans to optimize our ability to manage water supplies without sacrificing flood management or dam safety. The forward-looking authorities Congress provided USACE in WRDA 2016 are great examples of what will be necessary for the West to adapt to changing climate conditions.

In SRP's experience, both USACE and Reclamation are collaborative federal agencies that strive to fulfill their congressionally directed missions. Both agencies have similar, yet distinct missions that are not always in alignment. In addition, their authorities do not always mesh to facilitate effective management of western river systems. A great example of necessary congressional intervention to ensure that USACE and Reclamation authorities work in concert came in Section 162 of WRDA 2020. Section 162 supplemented the authorities provided in Section 1118 of WRDA 2016[1] to ensure that the authorities are applicable at facilities like Roosevelt Dam that are not owned by USACE but have dedicated FCS under the jurisdiction of USACE in accordance with Section 7 of the Flood Control Act of 1944.

Benefits of Increased Operational Flexibility at Roosevelt Dam

The current WCM requires that SRP evacuate water entering the FCS within 20 days, regardless of the size of flood event. Since Congress passed the clarifying authorities in WRDA 2020, SRP, along with 14 tribal, agricultural, industrial, and municipal partners are funding a coordinated effort with Reclamation and USACE to review the WCM to modify flood control plans. The areas of water use for the 14 partners is shown on the purple lands in Figure 3.

[1] Section 1118 WRDA 2016 authorized the Secretary of the Army to review proposals from a non-federal interest to increase the quantity of available supplies of water at a "Federal water resources development project". Through its Section 1118 WRDA 2016 implementation guidance and effects statement, the USACE interpreted Section 1118 as excluding dams not constructed by the USACE.

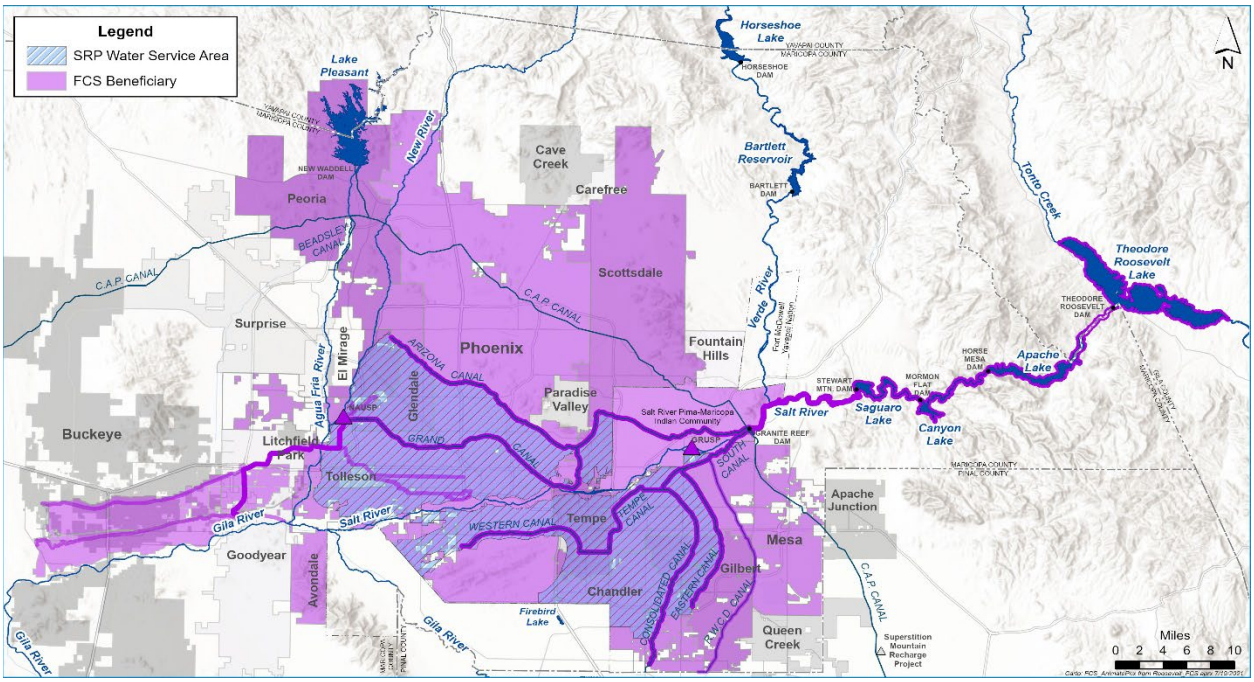

Figure 3. Areas of Use for Roosevelt FCS Beneficiaries

The review of the current WCM has resulted in a proposal from these non-federal partners to extend the release period in the bottom 20% of the FCS from 20 days to 120 days. The USACE and Reclamation engineers have reviewed the proposal which does not require any structural modifications or new infrastructure, and deemed it risk neutral from a dam and flood safety perspective. The USACE is currently reviewing the environmental impacts of the proposal and a decision is expected in late 2023. If approved, the proposal will allow SRP to modify flood operations in the FCS increasing the non-federal partners' ability to use up-to 109,000 AF of flood water through calendar year 2029. Put into perspective, such use has the potential to support the annual needs of roughly 330,000 households in the Phoenix Metropolitan area.

The 2023 run-off season serves as a great example of why the 14 non-federal partners are working with USACE and Reclamation to improve operational flexibility for flood events at Roosevelt Dam. To date, the Salt and Verde rivers have produced more than 400% above normal inflows for the 2023 run-off season. This is compared to one of the driest observed winter run-off seasons in 2022.

As a result of the large 2023 run-off season, Roosevelt Dam entered the FCS in mid-March. SRP evacuated the FCS within 20 days in accordance with the existing flood control plan causing 318,887 AF of water from the Salt River to be evacuated and go unused—that's more water than the total combined run-off observed on the Verde and Salt rivers in the 2022 run-off season.

If the proposed changes in operations could have been implemented this year, 109,000 AF of water could have been conserved for use in homes, agricultural fields, and businesses that SRP otherwise evacuated from the Roosevelt Dam FCS under the WCM. When the spring flood conditions became apparent, SRP worked with Reclamation and USACE to determine if any options existed to fast-track improved operational flexibility this year. After careful review and coordination, we determined we could not complete environmental reviews to authorize the revised operation before the flood events concluded.

Opportunities for New and Expanded USACE Authorities

Several opportunities exist to improve water management and climate change adaption through new and expanded USACE authorities. First, care should be given when developing legislation to consider the applicability to dams like Roosevelt Dam that are not owned by USACE but have dedicated FCS subject to USACE regulation under Section 7 of the Flood Control Act of 1944. In western states where both Reclamation and USACE have roles in water management, special attention should be given in developing and revising authorities that help the agencies complement each other in order to help improve efficiency of flood control plans while maintaining flood and dam safety.

Second, USACE has not developed categorical exclusions under the National Environmental Policy Act of 1969 (NEPA) that apply to operational changes to flood control plans. USACE should review its categorical exclusions to determine if minor deviations from flood control plans that improve water resiliency are appropriate for a categorical exclusion. Streamlining agency reviews for minor changes to flood control plans will help improve the ability of water managers to coordinate with USACE and other federal agencies to adapt operating plans to the changing climate conditions in the West. Flexibility and quick adaptation will be critical as these already highly variable western river systems become more variable in the future.

Third, the authorities Congress provided to USACE under Section 1118 of WRDA 2016 and Section 162 of WRDA 2020 are adding value to water management in the West and allow for non-federal entities to partner with USACE to evaluate the efficiency of existing water control plans and propose improvements to water management without sacrificing flood management or dam safety. Ensuring that USACE has the resources needed to implement the authorities provided in Section 1118 WRDA 2016 will help local, state, and federal agencies maximize the use of water supplies in very wet years like 2023.

In addition to the specific recommendations provided above, adapting to climate change in the West will require an all-of-the-above approach that considers infrastructure, operational, and water efficiency improvements, new technology, and ecosystem enhancement. Many invasive plant species grow along Arizona's rivers, including the Colorado, Salt, Verde, and the Gila. These non-native species–such as tamarisk (also known as salt cedar) and arundo, often thrive in degraded river systems, outcompeting native species such as cottonwood and willow, choking and consuming water flow. Funding and technical support made available through USACE can help study and identify key areas that can benefit from removal of these invasive species and replace them with native vegetation that uses less water and improves the ecosystem function.

Providing USACE with funding and authorities to support technical studies, infrastructure and water efficiency improvements, and new advanced water treatment technologies can help improve reliability of water supplies. Congress should take special care to ensure authorities complement and enhance Reclamation programs such as Title XVI and WaterSMART, in order to leverage the resources and expertise of these federal agencies in supporting western communities and improving water resiliency.

Conclusion

As Congress seeks opportunities to support improvements to water resiliency in the West, it should consider improving USACE authorities to support collaboration between federal agencies with complementary missions and non-federal entities responsible for managing water and flood operations. As these agencies work to adapt operations and infrastructure to meet changing climate conditions, their flexibility and ability to partner together are going to be more important than ever. Thank you for the opportunity to testify before you today. I look forward to answering any questions you may have.