



**POSITION  
of the  
WESTERN STATES WATER COUNCIL  
regarding  
PROBABLE MAXIMUM PRECIPITATION STANDARDS  
Texas Hosted Spring Virtual Meetings  
March 25, 2021**

**WHEREAS**, National Probable Maximum Precipitation (PMP) standards for extreme rainfall have long been used for the design and regulation of infrastructure including dams, roads and bridges, as well as thermal power facilities; and are used to promote consistency between federal and state agencies, as well as the private sector professional design community; and

**WHEREAS**, the National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS) first developed methodologies for estimating PMP standards in the 1940s, using historic data available at that time, and applied them across the United States through hydrologic and hydrometeorological studies and reports between 1961 and 1999; and

**WHEREAS**, Federal leadership is again needed to update these standards; and

**WHEREAS**, state dam safety programs have developed statutes, rules and guidance documents for the design of facilities that are typically based on these federal standards and studies; and

**WHEREAS**, while some states have changed their statutes to allow for the use of new methodologies provided by entities outside the federal government, many state dam and safety programs continue to use these outdated reports and standards, finding the change too difficult to attempt; and

**WHEREAS**, decades of storm event data (the basis for calculating the standards) have been recorded since the existing standards were published, but these have never been officially updated to include new methods, technologies, and more recent storm data; and

**WHEREAS**, inconsistencies between minimum design criteria of adjacent states and between federal and state design/performance expectations within states are increasing; and

**WHEREAS**, it has recently been reported that there are nearly 1,700 high-hazard potential dams currently in need of repair across the country, a percentage of which need spillway system improvements; and

**WHEREAS**, consistent and standardized PMPs and modern methodologies are needed for the design and repair of spillways at high-hazard potential dams rated unsatisfactory in order to ensure the highest level of public safety; and

**WHEREAS**, the recent Colorado-New Mexico Regional Extreme Precipitation Study (REPS) included state-of-the-practice updates to existing methodologies using NOAA research and high-resolution operational tools for prediction of extreme rainfall; and

**WHEREAS**, the REPS study – reviewed by a board of subject matter experts from numerous federal agencies – demonstrated possible approaches to updating extreme precipitation estimates at a national scale and also included research and recommendations for climate change considerations.

**NOW, THEREFORE, BE IT RESOLVED**, that the Western States Water Council supports NOAA leading federal efforts toward developing 21st century national PMP standards for estimating extreme rainfall in order to provide consistent requirements for ensuring public safety; and

**BE IT FURTHER RESOLVED**, that the Western States Water Council recommends Congress address this issue and authorize and fund necessary steps to update federal PMP standards, including a National Academies of Science, Engineering and Medicine (NASEM) study of the current state of the practice and options for extreme rainfall estimation, in order to provide NOAA clear direction toward development of 21st century national standards for estimating extreme rainfall (including PMP).