Position Statement - Science, Technology, Engineering and Mathematics (STEM) Education

Creating Engineers to Meet Tomorrow's Infrastructure Challenges

USSD Position

USSD strongly encourages and supports the understanding of Science, Technology, Engineering and Mathematics (STEM) in order to create engineers and scientists needed to meet infrastructure challenges. A STEM education is essential at the K-12 and college levels to elevate knowledge in the fields of dam and levee infrastructure. USSD tailors its outreach efforts toward the development and implementation of high-quality college-preparatory and career-ready standards and best practices in STEM disciplines, fostering engineers with a firm understanding of career opportunities in dam and levee related fields, challenges facing the industry, as well as an understanding of the overall impact of dams and levees to the safety of communities.

USSD strongly encourages the study and understanding of dams and levees as part of the evolutionary process of developing future careers in STEM disciplines, including civil, mechanical and environmental engineering, life and physical sciences, social sciences, and economics within the practicing community and the advancement of technology and research for safe dam and levee systems. USSD also encourages reduction of the environmental impact of power generation, such as climate change, by supporting activities which increase the renewability of hydropower generation.

Background on Issue

While dams and reservoirs are critical components of our national infrastructure, dam and levee structural integrity, risk to downstream communities, and the dynamic challenges of infrastructure are not being widely emphasized in the engineering education system. Furthermore, the benefits and reduced environmental impact of renewable hydropower generation compared to nonrenewable sources are often not fully understood by the public and policy makers.

Rationale Supporting USSD Position

As a leader in the Dam and Levee Safety community, USSD maintains a position of supporting knowledge diversity and strives to provide an avenue for discussing and collaborating for new research, development of best practices, and the collaboration with international groups with similar initiatives. USSD strives to maintain a forum to share new ideas and new methods that drive the current practice forward.

By providing a forum for education and growth of dam and levee professionals, USSD continues to lead the conversation in the technical aspects of dam and levee engineering. It is now a USSD strategic initiative to not only provide an environment for information sharing amongst dam and levee professionals, but to also foster interest in dams and levees in future generations of engineering students and emerging dam and levee professionals, together with providing support for education and development of young professionals.

As an organization that promotes dam and levee engineering, we have an inherent responsibility to maintain and advance the quality of engineers by actively supporting their development through the committees, board members, and society members.