**Risk Assessment-Related Dam Safety Workshops**

NHA member organizations have expressed a need to know of specific RIDM/SQRA/L2RA training opportunities for their employees that will help them comply with the new parts of the Federal Energy Regulatory Commission Part 12 regulations.

NHA staff compiled this list to meet members’ needs.

***At a Glance***

*Details about each course can be found below.*

* **August 9-11**:  Chicago, Illinois | DLS-109, Site Characterization for Dam and Levee Risk Assessments, conducted by the U.S Army Corps of Engineers
* **August 11, 2022**: Virtual | Decomposing Failure Modes and Constructing Event Trees for Dam and Levee Risk Assessments, conducted by the U.S Army Corps of Engineers
* **September 6-27, 2022**: Virtual | Introduction to Probability and Statistics for Dam and Levee Risk Assessments, Virtual, conducted by the U.S Army Corps of Engineers
* **Mid- to Late-September 2022 (tentative)**: Development of Hydrologic Hazard Analysis for L2RA Course, under development by Federal Energy Regulatory Commission
* **October 4-5, 2022**: Denver, CO | Fundamentals of Facilitating a Semi-Quantitative Risk Analysis, conducted by U.S. Society on Dams
* **October 4-6, 2022**: Denver, CO | Leveraging PFMA to Perform SQRA, conducted by the U.S. Society on Dams

**August 9-11:**  **Chicago, Illinois | DLS-109, Site Characterization for Dam and Levee Risk Assessments****, conducted by the U.S Army Corps of Engineers**

Purpose: Explore how the U.S. Army Corps of Engineers (USACE) Risk Management Center (RMC) develops and maintains risk competencies related to semi-quantitative or quantitative risk assessments (SQRA or QRA, respectively). This course is specifically designed to give journeyman scientists and engineers enough background to be able to scope and execute an appropriate level of site characterization to support an SQRA and QRA. Participants will gain necessary background related to site characterization, pertinent case histories, and other best practices.

Duration/Class: 3 Days, 30 Students

Location: Chicago, IL

Registration details can be found [here](https://docs.google.com/forms/d/e/1FAIpQLSeGtOCkC1M4rdrfzhYAuLp_CqspJHdiAYDbgw9dbY-cXu0vwg/viewform)

**August 11, 2022: Virtual | Decomposing Failure Modes and Constructing Event Trees for Dam and Levee Risk Assessments,** **conducted by the U.S Army Corps of Engineers**

Purpose: Explore how the U.S. Army Corps of Engineers (USACE) Risk Management Center (RMC) decomposes potential failure modes into discrete events and constructs event tree models to better understand potential failure mode progression and assess risk through Boolean logic. An event tree is a graphical depiction of the sequence of events that lead to failure or breach. It is the most common approach for estimating dam and levee safety risks

Duration/Class: 1 Day (10:00 AM - 4:00 PM, EDT), 30 Students

Location: virtual

Registration details can be found [here](https://docs.google.com/forms/d/e/1FAIpQLScZLrcEVzgBKMkCfaJd-AqicTk2W0-sM2ctR8N_KByuAY-0tA/viewform)

**September 6-27, 2022: Virtual | Introduction to Probability and Statistics for Dam and Levee Risk Assessments, Virtual**, **conducted by the U.S Army Corps of Engineers**

Purpose: Explore how the U.S. Army Corps of Engineers (USACE) consistently and correctly applies probability and statistics theory and methods in risk analyses. Probability and statistics are the foundation for any risk assessment, and this training course will cover the foundational theory and methods needed to perform a credible risk assessment. The main topics include data analysis, set theory, probability theory, statistics, random variables, distributions, hypothesis tests, regression analysis, Monte Carlo methods, joint probability, and stochastic processes.

Duration; one, 4-hour session per week for four weeks:

September 6, 2022, from 1200 to 1600 EDT

September 13, 2022, from 1200 to 1600 EDT

September 20, 2022, from 1200 to 1600 EDT

September 27, 2022, from 1200 to 1600 EDT

Location: Virtual

Registration details can be found [here](https://docs.google.com/forms/d/e/1FAIpQLSdXjndjSQXeQdEehpjHgavRGgtxXQPZ_YUIO5DHJ8Tdfe2ADQ/viewform)

**Mid- to Late-September 2022 (tentative): Development of Hydrologic Hazard Analysis for L2RA Course, under development by Federal Energy Regulatory Commission**

Purpose: To develop probabilistic hydrologic hazard loadings for use in Level 2 Risk Analyses

Planned Duration: 3.5 to 4 days, (4 to 6 hours virtual and 3 days in person)

**October 4-5, 2022: Denver, CO | Fundamentals of Facilitating a Semi-Quantitative Risk Analysis, conducted by U.S. Society on Dams**

Purpose**:** This course, Fundamentals of Facilitating a Semi-Quantitative Risk Analysis (Training), will provide: Training in the fundamentals of facilitating a semi-quantitative risk analysis (SQRA), including instruction in the facilitator’s roles and responsibilities, and the essential facilitation skills, tools, and behaviors of a risk facilitator. In addition, examples, exercises, and breakout sessions will be provided where attendees will have an opportunity to try out these techniques and tools.

Duration/Class: 04 Oct 2022, 8:30 AM - 05 Oct 2022, 6:00 PM

Location: Lowry Conference Center, Denver, CO

Registration details can be found [here](https://training.ussdams.org/p/f22facilitation)

**October 4-6, 2022: Denver, CO | Leveraging PFMA to Perform SQRA, conducted by the U.S. Society on Dams**

**Purpose:**  Over the last several years there has been a strong move towards incorporating Risk Informed Decision Making as a cornerstone of dam safety programs. These efforts have built on the approaches used by federal dam safety owners (Bureau of Reclamation, U.S. Army Corps of Engineers and the Tennessee Valley Authority) and now include utilities and state dam safety programs. In April of this year, the Federal Energy Regulatory Commission (FERC) put into effect new regulations (specifically 18 CFR 12) to require a Level 2 risk analysis (which utilizes semi-quantitative approaches) as part of the comprehensive assessments of dams.

Many PFMA’s have been performed for state- and federally-regulated dams, and as a result of that investment, considerable knowledge has been obtained about vulnerabilities associated with specific dams. The intent of this training is to leverage and improve on the significant investment that has already been made in performing PFMA’s, and use this information to perform semi-quantitative risk assessments (SQRA) for individual dams or dam portfolios. These assessments can then be used as a screening tool to identify PFM’s and overall risks which are not likely to meet Tolerable Risk Guidelines (TRG) based on life safety, and as a prioritization tool for reducing risk, performing additional investigations or studies, or performing quantitative risk assessments.

Duration/Class: 04 Oct 2022, 8:30 AM - 06 Oct 2022, 6:00 PM. Classes are small; no more than 12 students.

Location: Lowry Conference Center, Denver, CO

**Registration details can be found** [**here**](https://training.ussdams.org/p/f22SQRA)