

Risk and Resilience of Water and Wastewater Systems | EL262

OUTLINE / COURSE DESCRIPTION

.4 CEUs/4 PDHs/4 Contact Hours

This course will provide participants with an awareness-level understanding of the J100 Standard for Risk and Resilience Management of Water and Wastewater Systems (J100) and how it can be used to improve resilience at any utility, as well as support the statutory mandate for community water systems described in America's Water Infrastructure Act (AWIA) of 2018 (P.L. 115-270).

The course will begin with an overview of the seven steps of the J100 process and then explain how to perform each step. Participants will learn what types of output to expect from a J100 risk and resilience assessment and how to use the output to lower risk, enhance resilience and support AWIA requirements. Attention will be given to identifying critical assets, selecting appropriate threats and hazards, and developing a manageable list of Threat – Asset Pairs. The course will discuss the “Reference Threats” contained within J100 and also the new threat information that will be made available to utilities as a result of the AWIA. The course will provide examples of how to calculate Consequence, Vulnerability, and Threat Likelihood to develop Risk values, and the resources that can be used to facilitate this assessment. Once the concept of “Baseline Risk” is established, the course will explain how J100 can be used to develop strategies that lower risk, enhance resilience and achieve a positive return on investment.

Additionally, this course will help utilities understand what they should do after conducting a J100 risk and resilience assessment. Through a phased approach, participants will learn how to develop an implementation plan that prioritizes risk mitigation activities and balances their implementation with budgetary constraints. Finally, the course will show how the results of risk and resilience assessment can inform the development of an Emergency Response Plan.

The course modules include:

- Module 1 - Overview of J100
- Module 2 - Developing Threat – Asset Pairs
- Module 3 - Defining Baseline Risks through Consequence, Vulnerability, and Threat Likelihood Analyses
- Module 4: Risk and Resilience Management

LEARNING OBJECTIVES

- Collaborative Resolution Process
- Personal Ethics
- Avoiding Discrimination and Harassment
- Reporting Violations

COURSE REGISTRATIONS AS OF 11/14/19: 614

DEVELOPMENT AUTHOR / SPEAKER BIO

Perry Gayle, PhD, PE, LEED AP

A water and wastewater subject matter expert with over 40 years of experience, who has conducted over 50 water and wastewater risk and resilience projects including risk assessments, emergency response plans, business continuity plans, cybersecurity assessments, training, and exercises. Education: Virginia Tech, PhD, Civil Engineering.

Heidi Gilmore, PE

Heidi has conducted approximately 50 security and preparedness projects for water/wastewater utilities and is proficient in the use of various risk assessment methodologies and tools. Education: Virginia Polytechnic Institute and State University, Master's Degree, Environmental Engineering, 1996-1998, Virginia Polytechnic Institute and State University, Master's Degree, Civil Engineering, 1992-1996.

SME PEER REVIEWER(S)

John McLaughlin, PE

John has over 29 years experience in the water industry. He is a graduate civil engineer from Virginia Tech, with water/wastewater focus. I have worked in the field of water system security, emergency preparedness and response for over 20 years including membership and chairing multiple industry focused committees on the subject.

Also reviewed by AWWA SME and Education Staff.

COURSE METHODOLOGY

This is a Self-paced course. Self-paced courses are delivered exclusively online and progress is driven solely by the student. This format allows the student to move through course content at the student's own pace, taking into consideration the individual's knowledge level and capacity. Self-paced courses can be completed anytime during a 90-day period after registration. These courses may include presentations, pre-recorded audio, supporting articles, online learning activities, videos, quizzes, and evaluations.