

Managing Fuel Infrastructure Integrity and Uncertainty

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Abstract

Data by itself appears substantive but is meaningless and doesn't impact uncertainty. It informs nothing about reliability and accuracy, and can be counterintuitive and incorrectly manipulated. In order to be useful, data must be reduced and analyzed. This lecture will present the background of fuel infrastructure integrity management and how the uncertainty inherent to it is managed. We'll discuss the process by which data becomes knowledge and how that plays into decision making, and we'll discuss some differences in terminology regarding accuracy and how that plays into uncertainty. We will cover uncertainty itself, present some ideas on how to formulate an approach to managing it, and finally we'll cover decision making and pitfalls as they relate to uncertainty.

Biographies

Michael Rocha holds a Bachelor of Science in Mechanical Engineering from California Polytechnic State University, San Luis Obispo. Mr. Rocha is currently the Director of the EXWC POL Facilities Engineering Division, SH25. This division has a staff of 32 engineers, project managers, and support staff and collaborates with subject matter experts in EXWC and across NAVFAC in a number of technical areas. SH25 is the seat for the NAVFAC Technical Warrant Holder in POL Facilities Engineering and works with multiple Department of Defense Agencies, NATO, and non-government Technical Societies to develop and maintain engineering and construction criteria for POL infrastructure.

Frank Kern holds a Bachelor of Science in Environmental Resources Engineering from California State University, Humboldt. Mr. Kern has worked in the Engineering and Expeditionary Warfare Center (EXWC) Petroleum, Oil and Lubricants (POL) technical area since 2013. The EXWC POL Division provides Integrity Management services to the Navy POL infrastructure around the world. He was assigned the NAVFAC Technical Warrant Holder for POL Facilities Engineering in 2022. In that role, he is charged with setting technical standards and leading a community of practice.

