**Wednesday May 10**

**Engineer Category Day**

Engineer **Design of a Static Winch Guard for Shrimp Fishing Vessels: Process and** 5/10/2023 08:30 **Challenges**

5/10/2023 09:00 *LT Bryan Wimer, Engineer, CDC/NIOSH*

Maritime industries employ over 400,000 workers in the U.S. and have worker fatality rates that are more than four times those of all U.S. workers. The National Institute for Occupational Safety and Health (NIOSH) Center for Maritime Safety and Health Studies conducts research to identify practical solutions that reduce hazards within maritime industries to prevent injuries and fatalities. Commercial fishing operations can be particularly hazardous, with risks such as falls overboard, vessel disasters, and deck safety hazards due to operating machinery on a moving platform exposed to the weather. Winches on fishing vessels contribute to the high rate of deck injuries. Shrimp boats in the Gulf of Mexico often employ double drum winches with relatively little guarding and have been associated with a number of serious and even fatal injuries. NIOSH engineers developed, field tested, and refined designs for static winch guards for the most common winches found on shrimp boats in this fleet. Fabrication and installation guides were developed that allow fishermen to build and install retrofit guards. These guides will be made publicly available and distributed to project partners with the aim of reducing injuries and fatalities in the shrimp fleet.

At the end of the session attendees will be able to:

1. Describe the regulations used to protect worker safety using different cases.

2. Identify how partnerships are utilized to develop functional occupational safety interventions.

Engineer **The IHS SFC OCA O&M program after the IIJA**

5/10/2023 09:00 *CDR Lyle Setwyn, O&M Coordinator, Indian Health Service - Oklahoma* 5/10/2023 09:30 *City Area; LCDR Matthew LaForest, Engineer Consultant, Indian Health*

*Service*

The Infrastructure Improvement and Jobs Act is providing $3.5 billion dollars to the Indian Health Services Sanitation Facilities Construction Program, which will change the nature of the program itself. As the Oklahoma City Area serves Tribes & Nations with unique land status in Oklahoma, an overview of both the Indian Health Service Sanitation Facilities Construction Program and the Operation & Maintenance Program will be presented. In addition, the presentation will discuss in detail the advantages & disadvantages of the Oklahoma City Area’s reliance of 3rd party engineers within the Indian Health Service Oklahoma City Area Sanitation Facilities Construction Program.  In the second half of the presentation, the effect of funding the existing need on future will be explored, as installing infrastructure may lead to more replacement and rehabilitation of infrastructure in the future. Case studies & Rate Studies of anonymous systems will be presented showing the anticipated effects of infrastructure development on the operations & maintenance of those systems and the Oklahoma City Area’s Sanitation Facilities Construction Program.”

At the end of the session attendees will be able to:

1. Describe the Contract Health Services Delivery Area (CHSDA) of the Oklahoma City Area in regards to the Sanitary Facilities Construction (SFC) Scattered Sites Program in Oklahoma

2. Describe the relationship between a rate study and an asset inventory

Engineer **USPHS Engineers Responding to Disasters for the National Park Service**

5/10/2023 10:00 *CAPT Kris Neset, PE, BCEE, MSM, Project Manager, National Park* 5/10/2023 10:30 *Service/Denver Service Center; LCDR Steven Tidwell, Presenter, Field*

*Engineer/Project Manager, National Park Service/Storm Recovery Program*

This presentation will go over the disaster response and recovery roles of USPHS Engineers that work for the National Park Service (NPS). The focus will be on engineering assessments on damaged NPS structures/facilities. In addition, we will explore how USPHS Engineers facilitate the NPS disaster response and NPS disaster recovery missions. Examples will be covered from past response and recovery missions as recently as Hurricane Ian and Hurricane Nicole.

At the end of the session attendees will be able to:

1. Describe the Purchase Referred Care Delivery Area (PRCDA) of the Oklahoma City Area in regards to the Sanitary Facilities Construction (SFC) Scattered Sites Program in Oklahoma.

2. Describe what forensic engineering is and how it helps with damage assessments for the NPS.

Engineer **Intentional Recruitment Strategies for COSTEP and Entry-Level** 5/10/2023 10:30 **Engineering** **Positions**

5/10/2023 11:00 *LTJG Ashley Martinez, Field Engineer, Indian Health Service*

This session will provide attendees with strategies for engaging with local engineering students for the purposes of recruitment and raising awareness about engineering careers within PHS. We will cover the COSTEP application process, tips for helping students through the application, answers to the most common questions from applicants, and past COSTEP duties. We will also cover the use of the Handshake platform for posting jobs at universities across the US. We will review trends among entry-level and COSTEP applicants on the Handshake platform. Finally, we will compare creative strategies to engage with target student populations and discuss lessons learned from conducting live events with students. Strategies to be discussed include: job shadows, presentations to student clubs, resume workshops, and more.

At the end of this session, participants will be able to:

1. Describe the benefits of using Handshake to create and monitor job postings for local universities

2. Describe the COSTEP application process for both employers and applicants

Exhibits **Break in Exhibit Hall**

5/10/2023 11:00

5/10/2023 13:00

Please join us in the exhibit hall to meet our sponsor and exhibitors. You can view who is attending and where to find them in the Sponsor, Exhibitor, and Map sections of the app.

Engineer **Engineer Luncheon**

5/10/2023 13:00

5/10/2023 14:30

Engineer **ASPR as an OpDiv**

5/10/2023 14:30 *CDR Samantha Spindel, Deputy Director, Division of Information* 5/10/2023 15:00 *Management, Administration for Strategic Preparedness and Response*

*(ASPR); CDR Diana Wong, Division Director, Modeling and Simulation, DHHS ASPR*

On July 20, 2022, the Department of Health and Human Services dissolved the Staff Division (StaffDiv) of the Office of the Assistant Secretary for Preparedness and Response and created a new Operating Division (OpDiv) entitled the Administration for Strategic Preparedness and Response (ASPR). This new OpDiv was created to strengthen preparedness and response capabilities of the public health and medical sectors of the federal government. As ASPR absorbed additional programs such as the Strategic National Stockpile from the CDC in 2018, the Supply Chain Control Tower (SCCT) from FEMA in 2020, and the HHS Coordination Operations and Response Element (H-CORE; Originally Operation Warp Speed) from the Department of Defense in 2022, ASPR’s mission expanded beyond that of a StaffDiv. As an OPDIV, ASPR now has the same status as existing entities within HHS including the FDA, NIH, and CDC. Subsequent to the designation of ASPR as an OpDiv, a reorganization is slated to occur, leading to the creation of new super offices, including a Preparedness Office and a Response Office as well as preservation of the Biomedical Advanced Research and Development Authority (BARDA). Within the Preparedness Office are a variety of sub-offices and programs, including the Office of Information Management, Data, and Analytics. During this presentation, we’ll explore how engineers contribute to the ASPR mission in a variety of key roles within this office, such as within the SCCT, within the data analytics and visualization capability of H-CORE, and in the Division of Modeling & Simulation.

At the end of the session attendees will be able to:

1. Recognize the difference between a StaffDiv and an OpDiv

2. Describe the organizational structure of the Administration for Preparedness and Response

Engineer **Engineer Break**

5/10/2023 15:00

5/10/2023 15:15

Engineer **Continuity Through Transition: Best Practices for Engineers**

5/10/2023 15:15 *LT Andrew Colvin, PE, Environmental Engineer, Bemidji Area Office/Indian* 5/10/2023 15:45 *Health Service; LTJG Magaly Mendoza, Environmental Engineer, Indian*

*Health Service*

Engineers know how to build things that will last in the physical world. But how do we build teams, procedures, and systems that will also last? US Public Health Service Engineer officers transfer responsibilities many times during their career. Deployments, promotions, project work, reassignments, and retirements all require officers to maintain continuity during periods of transition. This presentation will provide lessons learned and best practices to plan, prepare, and complete effective transitions of responsibility as situations, missions, people, and organizations change. The presenters will draw on their experiences transitioning engineering and public health work in a variety of settings, including Peace Corps and Engineers Without Borders projects in Central and South America, military engineering operations in the Middle East, US Public Health Service deployments, and the closure/relocation of an Indian Health Service field office. Participants will learn when, how, and why to maintain continuity and contribute to the US Public Health Service’s important mission of protecting, promoting, and advancing the health of the American people.

At the end of the session attendees will be able to:

1. Identify best practices for effective transitions for Engineer officers.

2. Describe tools and recommendations that Engineer officers can use in their current and future permanent and deployment roles.

Engineer **Lessons learned in CCHQ Deployments in different engineer roles**

5/10/2023 16:15 *CDR Praveen K.C., Mechanical Engineer, U.S. Public Health Service*

5/10/2023 16:45

Since the declaration of National Emergency on March 2020, 175 days of deployment ( 4 COVID-19 mission and one Operations Allies Welcome (OAW) mission) has taught me that Engineer officer are flexible and can support missions outside traditional engineering roles. I have been deployed in roles such as Health Facilities Engineer, CORPS CARE support, Deputy Operation Chief, Medical Escort /Infection control team support, Data Support and Resource coordinator. I now have experience from how deployment order created to boots on the ground.

At the end of the session attendees will be able to:

1. Identify the types of roles engineer officers can support.

2. Describe how an engineer can be effective during deployment.

Engineer **EWB Survey Small Drinking Water Systems**

5/10/2023 16:45 *CDR Kurt Kesteloot, Supervisory Public Health Service, United State Public* 5/10/2023 17:15 *Health Service/National Park Service*

The sustainability of potable water supply projects in developing communities is critical as 2.1 billion people globally have limited access to potable water, 95% of projects are water projects and 91% of the funds used are on water projects.  In this study, we evaluated 23 surveys from potable water supply projects conducted through Engineers Without Borders USA.  Each survey had five dependent variables and more than 90 independent variables.  Researchers utilized logistics regression, Fisher’s Exact test and Mann-Whitney’s test to evaluate whether the 90 independent variables had a significant impact on the outcome of the five dependent variables.  Statistically significant was analyzed at the 95% confidence level.  Results indicate that there are several different factors that are statistically associated with each dependent variable.   Given the small sample size of 23 surveys, researchers applied the Fisher’s exact test to determine statistical association.  The following independent variables were determined to be statically significant in association with two dependent variables: government contributions to project costs, the number of homes within 500 meters, and local contributions to project costs.

At the end of the session attendees will be able to:

1. Identify considerations for surveys to analyze success of small drinking water systems

2. Describe statistical analysis possibilities and results from 23 EWB surveys

Engineer **Engineer Closing Remarks**

5/10/2023 17:15

5/10/2023 17:30