

Dept. of Military Affairs: Wisconsin Guard Environmental Quality Team focuses on training, energy reduction to make strides

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By focusing on improving and innovating in training and delivery of content, and through targeted energy reduction strategies that will pay dividends for years, the Wisconsin Army National Guard's team in charge of environmental quality and environmental management systems (eMS) has made significant improvements in its unit's environmental performance.

"In the face of a global pandemic, rather than playing catch-up, our eMS team has driven real, measurable improvements in operations, compliance and sustainability," said Adam Jakubowski, Environmental Performance Assessment System and eMS manager. "We believe this can serve as a model for other states to follow."

The unit reached a 93 percent compliance rate in training, despite the elimination of in-person sessions that had been the norm for such training work. By pivoting to webinar-based formats for specialized spill training (eight hours) as well as annual unit environmental officer courses, the team kept the training level high despite challenges. The online materials were developed in direct coordination with the Army Engineer School Knowledge Network and the U.S. Army Corps of Engineers.

The team also created six video-enhanced training packages that were rolled out in 2021. These training packages — aimed at multiple audiences in specialized areas — have the added advantage of being easily updated as roles or best practices evolve, enabling more up-to-date training materials.

These video products included explanatory slides, quizzes and even training games, designed to keep engagement levels high, even at a distance. The videos also allowed for emphasis on specific state requirements, augmented by conventional slides and information, making them a viable alternative when site visits are not possible.

“By innovating to face a challenge, we have improved our overall training program, added flexibility and continued to produce effective outcomes,” said Theresa Brandabur, water resources and training program manager. “For example, we credit our training and exemplary compliance record — no incidents since 2008. And since implementing this video training, we see that spill incidences have continued decreasing over the past two years, with robust structures in place to ensure proper reporting.”

On the energy reduction front, the eMs team has been attacking the issue on two fronts. At the Wisconsin Army National Guard’s Madison campus, the team is developing a microgrid for the site to promote resiliency. This project is currently in the early stages of development.

As this moves forward, the eMS team will this year install a 160kw combined heat and power (CHP) unit that captures the heat rejected from the 160kW natural gas generator and uses that to supplement hot water generated by the boilers. Electricity from the generator offsets power from the utility and reduces electrical demand.

“The payback on a CHP unit typically ranges from 10 to 15 years, and the benefits of implementing these systems to cheaply generate electricity independently are abundantly clear,” said Joe Powelka, energy manager. Another energy-savings improvement driven by the eMs team occurred at the Superior Armory, where implementation of an energy envelope conservation project resulted in a 30 percent drop in annual gas consumption.