

Safety and Occupational Health

Preventing Accidents





Reducing Injuries and Illnesses while Improving Mission Readiness

The NDCEE is helping the Department of Defense (DoD) and its installations achieve the goal of attaining a safe and healthy work environment and zero preventable incidents. Unsafe work environments can cause injury, illness, and death. Even if people are unhurt in an accident, accidents can negatively impact military readiness through loss of team cohesiveness, equipment damage, and valuable time spent conducting investigations. They can also degrade mission capability and effectiveness. We place a special emphasis on identifying, evaluating, managing, and mitigating those hazards which cause workplace injuries—providing for safer working and training conditions.

For more than 20 years, the NDCEE has been identifying, demonstrating, evaluating, and fielding technologies in support of DoD readiness, sustainability, and the Warfighter. The below project descriptions are examples of recent activities. Other SOH activities include technology evaluations related to rotary wing terrain awareness, aircraft firefighting training, munitions monitoring, facility environmental management and monitoring, and vehicle blast recording.



Safety Management Systems

Systematic, continuous, and comprehensive process for managing safety risks with evidence-based balance of safety, productivity and costs

- Consult and train to assess and implement safety management system standards
- Create management systems integrating all individual programs within day-to-day business operations and processes
- Assist personnel at all levels to be self-sufficient in developing and sustaining a safety culture and management system
- Develop tracking and awareness tools to control human hazard factors (e.g., fatigue)

Industrial Hygiene (IH)

Anticipation, recognition, evaluation and control of work health hazards productivity and costs

- Survey all types of work activities to anticipate, recognize, evaluate, and manage hazards
- Improve IH data quality, assessment, and management
- Improve the operational efficiency of client IH staff
- Assist sites in complying with organizational and regulatory requirements
- Improve worker awareness of workplace hazards

Safety Engineering

Cross-discipline approach from analysis through design and operations to mitigate or eliminate safety hazards

- Analyze requirements and integrate safety with lifecycle systems engineering
- Provide comprehensive safety solutions per DoD and other federal agency requirements
- Improve quality and ownership of safety requirements
- Develop, demonstrate, and implement SOH technologies, processes, and practices

Institutional Safety and Occupational Health (SOH) Expertise

We offer policy and technical knowledge on 11 specialties

- Aviation Safety
- Explosives Safety
- Range Safety
- Chemical Process Safety
- Fire Protection Engineering
- Construction Safety
- Institutional Safety
- Mine Safety
- Patient Safety
- Motor Vehicle Safety
- Epidemiology

Industrial Hygiene (IH) Companion Tool

Created a mobile app to facilitate collecting and managing IH and workplace hazard information. This tool streamlines the process of conducting noise and ventilation surveys and assists with increasing hazard recognition and data management efficiency. In 2013, we demonstrated a two-fold increase in survey productivity with the IH Companion on behalf of the Army Public Health Command.



Better Quality of Work Environment (QWE) Assessments

Developed, demonstrated, and fielded a mobile QWE assessment tool to allow data and information to be electronically recorded and reported. This tool supports QWE assessment initiatives to ensure QWE standards are applied across Army industrial facilities to create the best working conditions practically achievable. It has been employed by government QWE assessors across the United States.



IH Data Management Process – Standardized

Produced an improved method for the Industrial Hygienist to gather relevant workplace survey data to input into the Defense Occupational and Environmental Health Readiness System (DOEHRS). This tool enhances the consistency of collecting, analyzing, managing, and utilizing IH information. This methodology allows Commanders and IH leaders to balance and prioritize resources while promoting a better QWE for military and civilian personnel.



Personnel Recovery Mission Support

Validated a risk assessment tool by applying it to three assets: HC-130 aircraft, HH-60 helicopter, and Guardian Angel Weapon System (GAWS). We identified potential risks that would affect the Air Force's critical personnel recovery mission. For instance, we identified risks from unexpected workload changes that affected GAWS personnel.



Fatigue Risk Reduction

Modified a suite of fatigue-management tools called Alertness Management in Military Operations (AMMO) to improve performance and operate as a secure web application. Commanders use AMMO to identify potential fatigue (sleep loss) situations. They receive actionable alertness information for managing operational readiness of their unit and making real-time decisions to minimize safety risks.



Better Blast Protection

Worked with the Army to design, develop, and demonstrate an innovative seat system for military vehicles to protect occupants from blast effects. The seat maximizes soldier comfort and provides protection during a blast event.



Aircraft Design Improvements

Developed design upgrades on behalf of Naval Air Systems Command that improve the maintainability of the MH-60R aircraft, reducing total ownership costs and increasing aircraft availability to the Warfighter. Additionally, we performed flight clearance analysis in support of these design upgrades to ensure operator and aircraft safety.



Changing the Safety Culture

Any organization's goal is no accidents, no occupational injuries and illnesses, and compliance with all SOH standards and policies. Leaders, managers, and workers all play key roles to ensure that safety and health remains integral to everything they do. The result is increased productivity, morale, and effectiveness!

- How is your organization preventing accidents and workplace illnesses?
- How do you classify the quality of your work environment?
- Do you have a process to routinely survey to identify and better manage risks?
- Are any facilities and systems at risk for a mishap?
- Is any weapon system in need of an engineering control evaluation to minimize safety risks?
- Is equipment removed for maintenance to specifically address SOH concerns?
- How are candidate technologies and processes being evaluated to ensure SOH factors are being properly assessed and issues mitigated?

How may we help you identify and manage hazards in your workplace and operations?

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