



2016 Secretary of Defense Environmental Awards Environmental Excellence in Weapon System Acquisition, Large Program

Each year since 1962, the Department of Defense (DoD) has honored individuals, teams, and installations for their outstanding achievements and innovative work protecting the environment while sustaining mission readiness. The 2016 Secretary of Defense Environmental Awards recognize accomplishments from October 1, 2013 to September 30, 2015. A diverse panel of judges with relevant expertise representing Federal and state agencies, academia, and the private sector evaluated all nominees to select one winner for each of the nine categories that cover six subject areas: natural resources conservation; environmental quality; sustainability; environmental restoration; cultural resources management; and environmental excellence in weapon system acquisition.

About the Environmental Excellence in Weapon System Acquisition, Large Program

The Environmental Excellence in Weapon System Acquisition, Large Program award recognizes efforts to incorporate environment, safety, and occupational health requirements into a large (Acquisition Category I) weapon system acquisition program's system engineering, contracting, and decision-making processes. Adhering to these principles enhances DoD's acquisition process by ensuring that weapon system programs keep the safety of personnel and protection of the environment as a priority. The 2016 winner of the Environmental Excellence in Weapon System Acquisition, Large Program award is *KC-46 Program Environment, Safety, and Occupational Health Team, Wright-Patterson Air Force Base, Ohio*.

About KC-46 Program Environment, Safety, and Occupational Health Team, Wright-Patterson Air Force Base

The KC-46A aircraft, which achieved first flight on September 25, 2015, will replace the U.S. Air Force's aging tanker fleet. This Acquisition Category I program is converting the commercial Boeing 767-200 Federal Aviation Administration (FAA)-certified passenger/freighter aircraft to an aerial refueling aircraft with passenger, cargo, and aeromedical evacuation capabilities. The KC-46A program environment, safety, and occupational health (ESOH) team, a cross-functional, government-contractor team, is responsible for the program's ESOH integration efforts. The KC-46A program implemented an integrated ESOH effort into its system design activities, beginning with early planning and engineering, extending to the setting of user requirements and contract specifications, and continuing through the system's developmental engineering efforts. This resulted in a program that exceeds the expectations set by DoD Acquisition and ESOH policy and guidance.



Outdoor exposure test coupons for seven hexavalent chromium-free surface paint systems are set up for long exposure tests. Tests are conducted under high humidity, rainfall, and salt conditions in Daytona, Florida.

Major Accomplishments in FY 2014-2015

- The KC-46A will be the first commercial transport-based aircraft with an FAA-certified non-halon fire suppression system. This innovation eliminates KC-46A's use of halon fire suppression systems, which are known to deplete ozone, and reduces sustainment risks from out-of-production halon. The FAA and industry will also benefit from valuable testing data and lessons learned to support the future transition to non-halon systems on commercial aircraft worldwide.
- The KC-46A incorporates hexavalent chromium reduction as a top priority for the system from contract requirements through engineering development and sustainment planning. The Air Force requires a non-hexavalent chromium paint system for the external surfaces of the aircraft – the primary source for chromate generation during sustainment. This reduces ESOH risks and costs throughout the life cycle.
- The KC-46A ESOH team implemented Advanced Performance Coating topcoat, which doubles the time between aircraft repaint cycles - further reducing cost and risk. In addition to reducing volatile organic compounds, this initiative will save at least \$44 million over the life cycle of the initial fleet of aircraft.
- The KC-46A ESOH team ensured that the aircraft meets FAA Stage 4 Far Field Noise Limits. Stage 4 is currently the most restrictive noise level for commercial aircraft noise and reduces impacts on U.S. Air Force personnel and neighboring communities.
- The KC-46A ESOH team implemented a comprehensive hazardous materials (HAZMAT) management program that identifies the HAZMAT embedded in the system and used in operations and maintenance. The team is eliminating the use of hazardous materials wherever possible during system development and is also implementing Boeing's Design for Environment program to evaluate replacements for consumables used in both manufacturing and maintenance across the life cycle.



The KC-46A will be the first airliner/transport-type airframe in the world delivered with an FAA-certified non-halon engine and APU fire suppression system.



The KC-46A is implementing ESOH and engineering processes that meet or exceed requirements set by DoD and Air Force guidance.