



2024 Secretary of Defense Environmental Awards Environmental Excellence in Weapon Systems Acquisition, Individual/ Team Award

Each year since 1962, the Secretary of Defense has honored installations, teams, and individuals for outstanding achievements in Department of Defense (DoD) environmental programs. These accomplishments include outstanding conservation activities, innovative environmental practices, and partnerships that improve quality of life and promote efficiencies without compromising DoD's mission success. The 2024 Secretary of Defense Environmental Awards cycle encompasses an achievement period from October 1, 2021, through September 30, 2023 (Fiscal Years [FY] 2022-2023). A diverse panel of 48 judges with relevant expertise representing Federal and state agencies, academia, and the private sector evaluated all nominees to select 1 winner for each of the 9 categories. These nine categories cover six subject areas including natural resources conservation, environmental quality, sustainability, environmental restoration, cultural resources management, and environmental excellence in weapon systems acquisition.

About the Environmental Excellence in Weapon Systems Acquisition, Individual/Team Award

The Environmental Excellence in Weapon Systems Acquisition, Individual/Team award recognizes efforts to incorporate environment, safety, and occupational health (ESOH) requirements into a weapon systems acquisition program's system engineering, product support (logistics), contracting, and decision-making processes. Adhering to ESOH requirements enhances DoD's acquisition process to ensure that weapon systems programs prioritize the safety of personnel and protection of the environment. The DoD Components may nominate an individual or team that executes ESOH requirements for the program office, including geographically dispersed teams not co-located at the same installation. Installations, laboratories, and other organizations that are not an integral active member for the acquisition program are not eligible for this award. The 2024 winner of the Environmental Excellence in Weapon Systems Acquisition, Individual/Team award is *F-35 Lightning II Environmental, Safety, and Occupational Health Team, Maryland*.

About the F-35 Lightning II Environmental, Safety, and Occupational Health Team, Maryland

The F-35 Lightning II Program is a DoD Acquisition Category I-D Program, directed by a Program Executive Officer. The U.S. Air Force (USAF) and U.S. Navy (USN) jointly lead the F-35 Lightning II Joint Program Office (JPO) that manages the program. The program includes three variants, the F-35A, F-35B, and F-35C, which include conventional takeoff and landing, short takeoff and vertical landing, and carrier features, respectively. These variants are replacing aging inventories, including A-10s, F-15s, F-16s, F/A-18s, AV-8B Harriers, Harrier GR7s, and Sea Harriers. The F-35 Lightning II ESOH Team is the joint service, government-prime contractor team responsible for integrating ESOH requirements into F-35 system engineering processes and acquisition, production, and sustainment strategies. The team's efforts have resulted in international environmental compliance and pollution prevention cost savings, encouraging F-35 sales and stronger alliances, internationally.



F-35 team members from all 17 countries coordinate together at the F-35 ESOH Working Group on hazard mitigation efforts. Personnel Depicted: Aaron Barker, Civilian (CIV), USAF; Mariana Demetry, CIV, USAF; Daniele Johnson, CIV, USAF; Kelly McNamara, CIV, USAF; Wing Commander Gareth Bean, United Kingdom (UK) Royal Air Force (RAF); Jason Lindt, USN; Sgt Wayne 'Clint' Eastwood, UK RAF; Eric Sievert, USN; Dr. Christin Duran, U.S. Air Force Research Laboratory (AFRL); Ben Thrasher, CIV, USAF; Scott Fetter, Contractor (CTR), Lockheed Martin (LM); Megan Brooks, CTR, LM; and Rich McKinley, CTR, AFRL.

Major Accomplishments in FY 2022-2023

- Hexavalent chromium is carcinogenic and targeted to be eliminated on the F-35. Fuel tank coatings remain the largest hexavalent chromium application. The F-35 ESOH Team implemented a non-chrome fuel tank coating with a non-chrome rapid-cure fuel tank touchup kit at USAF-owned manufacturing facilities and at F-35 depots.
- To ensure safe F-35 operations in Hardened Aircraft Shelters (HAS), the F-35 ESOH Team led acoustic and chemical emissions data collection and research efforts for F-35 operations in USAF HASs at RAF Lakenheath, UK. The team also accelerated certification rates across U.S., partner country, and foreign military service customer installations.
- In 2023, the Air Force Life Cycle Management Center (AFLCMC) and LM implemented Rapid Tac II, which is a fluid that allows pressure-sensitive, adhesive backed boots to be repositioned before permanently adhering to a surface. The use of Rapid Tac II minimizes rework and waste, which has resulted in a 134-ton reduction of total volatile organic compounds. This effort resulted in an estimated cost savings of \$5,200 per aircraft and total savings of \$16 million.
- AFRL and Naval Air Systems Command sampled for the presence of more than 100 suspected particulate and gas emissions during a fiery mishap study. Results showed that most emissions from the fire were either non-existent or too low for advanced sampling equipment to detect. The emissions from the large-scale burn study were found to be typical of an aircraft mishap.
- AFLCMC and LM conducted qualification testing to extend the F-35 coatings' shelf life. Three coatings show promising results with their shelf lives expected to increase from one to six months, depending on the material and storage temperature. This effort will result in a cost savings of \$166,000 per year for the 3 coatings at F-35 manufacturing and depot sites alone.
- The F-35 ESOH Team is working to replace cadmium, a globally regulated human carcinogen, on landing gear and leading-edge flaps with zinc-nickel plating. Dalistick, a non-drip brush plating method, is replacing traditional cadmium brush plating repair. The team implemented non-cadmium electrical connectors on F-35 subcontractor hardware and airframe; this effort resulted in a 98-percent cadmium-free outcome, leaving only 50 connectors pairs remaining with cadmium.



F-35 JPO and AFRL Team Members visit RAF Lakenheath, UK to collect F-35 operational noise and emissions data to determine safe operating parameters for maintainers, pilots, and even the F-35 aircraft from vibrations. From left to right: Steven C. Campbell, AFRL Research Engineer, Hilary Gallagher, F-35 JPO Hearing Protection & Communication Subject Matter Expert, Dr. Alan Wall, F-35 JPO Research Physicist, and Captain Christopher Hopkins, AFRL Engineer.



A U.S. F-35B Lightning II performs an aft-facing vertical landing aboard the Italian aircraft carrier ITS Cavour (CVH 550). Wreckage from a U.S. F-35B was used in the burn study.