

SECRETARY OF DEFENSE

ENVIRONMENTAL QUALITY INDIVIDUAL/TEAM

ENVIRONMENTAL AWARD CATEGORY



NOMINEE:

HILL AIR FORCE BASE, UTAH
75 CEG/CEV Environmental Quality Team

NOMINEE
CONTACT
INFORMATION

75 CEG/CEV - C/O JOE MARTONE
7274 WARDLEIGH RD, HILL AFB, UT 84056
COMM: (801) 775-3646 DSN: 775-3646
Joseph.Martone@hill.af.mil

NOMINATING
INDIVIDUAL

W. BOB JAMES - 75 CEG/CEV
7274 WARDLEIGH RD, HILL AFB, UT 84056
COMM: (801) 777-6916 DSN: 777-6916
Bob.W.James@hill.af.mil

Environmental Quality Team Hill Air Force Base, Utah

Environmental Quality Team/ Individual

Located nearly 30 miles north of Salt Lake City, Utah, Hill Air Force Base is a major Air Force aircraft and missile maintenance depot and weapon systems program office with over 28,000 employees focused on the three Air Force core values: integrity first, service before self, and excellence in everything we do. The installation provides worldwide engineering and logistics management for the F-16 Fighting Falcon, A-10 Thunderbolt aircraft, the Minuteman III, and Peacekeeper intercontinental ballistic missiles. Activities at Hill include depot maintenance, repair, and overhaul of the F-16, A-10, and C-130 Hercules aircraft. The installation is the Air Force Center of Industrial and Technical Excellence for low observable, “stealth”, aircraft structural composite materials and provides support for the B-2 Spirit multi-role bomber. Supporting 5 wings, approximately 46 tenant units, and nearly a million acres of the Utah Test and Training Range, the 21-member Hill Environmental Quality Team (EQT) is responsible for oversight of all base and



Preserving the past and protecting the future, the Hill EQT has worked to enhance our cultural and natural resources.

range environmental programs, including management of cultural, natural resources, and environmental compliance.

Hill Environmental Quality Team Accomplishments

- Applied Environmental Management System (EMS) to improve paint and blast booth filter compliance by 100%, and increased EMS awareness with three courses
- Demilitarized 1 million pounds of stockpile propellant; generated \$43,000 in recycled scrap metal revenue, improved wastewater treatment efforts, and maintained seven web-based data management tools
- Earned highest rating during external 2007 EOHCAMP and was awarded 21 (the most ever) special individual recognitions
- Reduced hazardous waste costs by greater than \$440,000 annually
- Trained over 13,500 employees on environmental topics, provided more than 7,700 Material Safety Data Sheets to industrial personnel, participated in “Tree City USA”, and published/presented 30 scientific papers in technical journals and at national and international conferences
- Processed over 4,000 National Environmental Policy Act (NEPA) documents, increased NEPA productivity time by 700%, managed 317 archeological sites and 364 historic buildings, and coordinated with 19 local American Indian tribes.



EQT and range staff successfully demilitarized the first Trident first-stage rocket motor (81K lbs net explosive weight).

Team Members and Position Descriptions



All EQT members are with the 75 CEG/CEV, Hill Air Force Base, Utah



Listed as shown left to right: (top row) Dr. Joe Martone, Chief, Environmental Operations Branch; Dr. Wayne Downs, Hazardous Waste Program Manager; Justin Beard, Hazardous Waste Control Facility Manager; Paul Betts, QRP/Water Quality Program Manager; Art Olivas, Air Quality; (middle row) Marie Neri, P2/EPCRA/GPP; Glenn Palmer, Compliance Section Chief; Debbie Hall, P2/EPCRA/GPP; David Mills, Hazardous Material/EMS Program Manager, Wayne Murphy, Hazardous Waste Control Facility Driver; (bottom row) Mike Petersen, Water Quality; Lisa Aschbrenner, Toxics/Storage Tanks/POL Program Manager; Jaynie Hirschi, Archaeologist; Kay Winn, NEPA Project Manager; Jimmy Snyder, Hazardous Waste Inspector

Not shown in picture: Steve Rasmussen, Air Quality Program Manager; Marcus Blood, Natural Resource Program Manager; Sam Johnson, NEPA/Cultural Resource Program Manager; Lisa Powell, Resource Management; Terry Browning, Hazardous Waste Inspector; Russell Lawrence, Biologist

Awards

USAF Thomas D. White Environmental Quality Team Award, 2007

Runner-up for Air Force Outstanding Civil Engineer Environmental Flight Award, 2007

AFMC Cultural Resources Award, 2006

AFMC Environmental Restoration Award (Large Base), 2006

Utah Pollution Prevention Association Achievement Award,
Presented September 2005

American Council of Engineering Companies National Recognition
Award, April 2005

“ These awards demonstrate your outstanding contributions to the Air Force and showcase our continuous commitment to compliance while enhancing the mission capabilities. I sincerely congratulate the winners and honorable mention for being leaders in our environmental program and an integral part of the Air Force team. ”

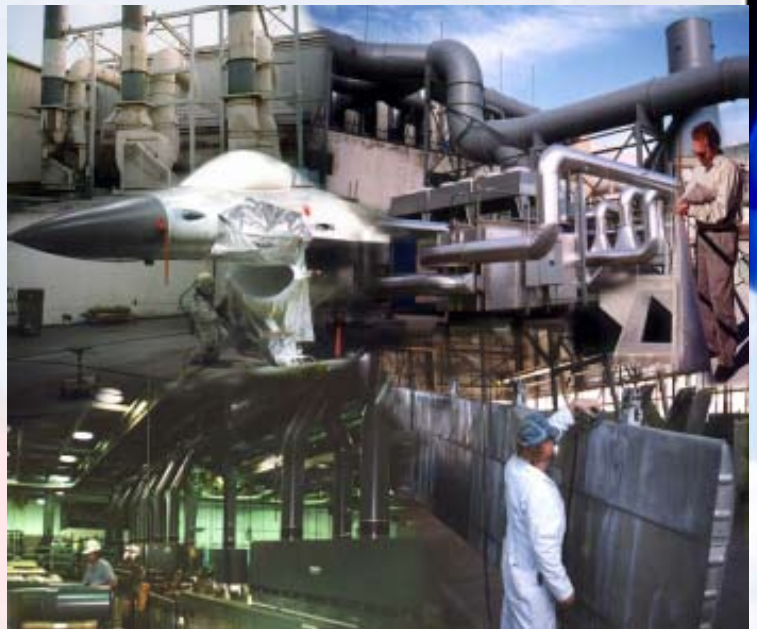
Lt. General Kevin J. Sullivan
Deputy Chief of Staff for Logistics,
Installations & Mission Support Headquarters
U.S. Air Force

Accomplishments

Environmental Management System (EMS)

Located nearly 30 miles north of Salt Lake City, Utah, Hill Air Force Base (AFB) is a major Air Force maintenance depot and weapon systems program office with over 28,000 employees. Activities at Hill include maintenance, repair, and overhaul of Air Force aircraft; and engineering and logistics management of intercontinental ballistic missiles. To meet the needs of our large and diverse industrial community, the Hill AFB Environmental Quality Team henceforth referred to as “our Team”, does more than meet EMS requirements. We manage operations, risks, and personnel embracing the EMS framework. Hill’s uniqueness lies in the application of a quality control plan (QCP) and a quality assurance surveillance plan (QASP) which are web-based tools implemented in 2003 when we established an environmental Most Efficient Organization (MEO) under the requirements of OMB Circular A-76. Last year, while auditing our MEO, the Air Force Manpower Agency declared our QCP and QASP tools Air Force “best practice benchmarks” that should be shared with Air Force bases worldwide. As an example, one element of our QCP is a web-based semi-annual customer survey. The survey allows 25 key environmental coordinators assigned to operational units across the base to give our Team direct feedback on the delivery of our environmental services. The survey results are used to assure continual process improvement across all 13 aspects of our environmental management program. To complement our QCP and QASP, our Team has also implemented numerous EMS tools such as Environmental Management Plans (EMP) to further enhance our EMS and accomplish mission goals by directly working with the base staff to resolve many environmental issues that impacted continued regulatory compliance.

Our Team’s decisions engage stakeholders including unit environmental coordinators, production workers, maintenance supervisors and engineers, supply warehouse workers and clerks, bioenvironmental managers, and data system programmers and implementers. This group input led to the integration



of Hill’s first EMS EMP. The objective of this EMP was to reduce the risk of noncompliance resulting from improper maintenance of dry filters on over 40 aerospace paint and blast booths base-wide regulated by National Emission Standards for Hazardous Air Pollutants (NESHAP). The EMP energized the workforce by drawing relationships between compliance and industrial organization goals, identifying improvement opportunities, and by continuously incorporating value-added lessons learned. Targets included providing training to booth operators and maintainers, and improving monthly monitoring reports. The idea was to promote regulatory compliance via group thinking, communicate past problems, modify work-plans, and perform assessments to ensure the EMP was implemented per the group’s direction, and that it was effective in meeting objectives, goals, and targets.

“Utah is cleaner because of Hill Air Force Base’s outstanding work to set and achieve worthy environmental goals. Their innovative action and professionalism has improved the quality of life for many Utahns living, working, and recreating near the Base. Their commitment to protecting human health and the environment is impressive and serves as a model for others to follow. As one of their partners, DEQ is pleased with their work and supports their continued efforts.”

Rick Sprott, Executive Director
Utah Department of Environmental Quality



The plan is audited annually. Its results are carefully considered and acted upon through the management review process. These tasks truly embody the EMS standards of *Plan, Do, Check, Act*.

To date, over two years later, no reportable deviations on directly-related matters have occurred. As a result, the success of the plan was briefed at national gatherings such as the 2006 Environmental, Safety, and Occupational Health Training Symposium, the 2006 Joint Services Environmental Management Conference, and other Department of Defense (DoD) forums.

Our Team offers three EMS-oriented courses via a readily-available, easy-to-use online training system: an “EMS Awareness” course designed to meet the initial familiarization requirement for 100% of the base personnel; an “EMS Practitioners” course intended for individuals with a stated interest in applying EMS principles (over 700 practitioners trained!); and finally a course that instructs users on the proper maintenance procedures for dry filtration systems associated with the EMP.

Pollution Prevention and Waste Reduction Efforts

Our Team made impressive progress to avoid negatively impacting natural resources and human health. We have made tremendous strides in identifying and obtaining alternative chemicals. Our pollution prevention projects have included the study of methods to extend the lives of chrome and nickel plating solutions, the evaluation of electro-coagulation to remove toxic metals from industrial wastewater, and high pressure-washing to remove paint which saved \$500,000 in bead blasting material and reduced methylene chloride use by 50%.

In coordination with other military services and the University of Utah, our Team is developing pollutant emission factors and researching the measurement of infrasound and seismic waves related to our open detonation operation at the Utah Test and Training Range (UTTR). The Thermal Treatment Unit,

located at the UTTR, is the nation’s only permitted site for demilitarization by detonation and burning of explosives greater than 10,000 pounds; this unique location is the only one of its kind in the nation with such capabilities. Working with Range staff, our Team demilitarized over 1 million pounds of missile motor propellant, burned 680 tons of NASA Titan propellant, and successfully transported and detonated the first 81,000 pound, first-stage Trident missile motor for the Navy. By developing accurate combustion emission factors, the base was able to document nearly 100 tons of hazardous air pollution reductions annually.

The first ever installed at a DoD installation, the innovative landfill gas to energy generator in operation at Hill AFB converts local landfill methane gas into electrical energy. By displacing the utility-supplied electricity and diverting the landfill gas from a flare station, net emissions were reduced by 5,000 tons of carbon dioxide, 19 tons of sulfur oxides, 5.5 tons of nitrogen oxides, and 4.8 tons of carbon monoxide, annually. The generator is so impressive that findings were presented at a GovEnergy Conference in September of 2007. It also supports Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management by capturing and applying renewable energy.



Beyond this, we helped transform more than one million pounds of spent abrasive blast media into construction blocks, generated \$43,000 in recycled scrap metal revenue, and produced 24.8 million pounds of scrap metal from bombs and targets, the latter of which avoided \$5.84 million in disposal costs.

Our Team made drastic facility and operational improvements by re-routing open surface drainage systems to reduce storm water influx to the industrial wastewater treatment plant by 95%, thus reducing the potential for unintentional discharge into the local sanitary sewer and decreasing treatment costs by \$250,000. These surface waters now drain to ponds on base, which add to the diversity of environmental ecosystems within the base and supports wildlife habitat. Moreover, our Team meticulously characterized 250 wastewater processes to improve treatment efforts.

We pride ourselves on maintaining permits and other compliance records. A major priority is meeting reporting requirements, and this milestone was achieved in all environmental functional areas. A major contributor to this accomplishment was our Team's array of technological data systems for record keeping—all developed and maintained by Team personnel and contractors. One such web-based system, the Enterprise Environmental, Safety, and Occupational Health Management Information System (EESOH-MIS); carefully tracked hazardous materials data, and enabled personnel to consider health risks through its material authorization procedures. This system will become the Air Force-wide system for managing such data. Hill continues to serve as the lead organization for this program's advancement.

To promote long-term operational sustainability, data systems were designed with transferability in mind and many are or will be used at other DoD installations.

Furthermore, our Team's program is employee and process focused to link the person to the process to the materials issued and thus manage employee exposure and material consumption. EQT data systems coupled with sophisticated monitoring and assessment techniques both contribute to Hill's impressive compliance status.

“Hill Air Force Base has an excellent record working with both EPA and the State of Utah to quickly deal with environmental problems and to prevent their recurrence. As one of the largest and most complex industrial activities in the State, its environmental record is clearly superior.”

Robbie Roberts, Administrator
EPA Region 8

Environmental Compliance Assessment and Management Program (ECAMP)

Hill's meticulous 2006 internal self-assessment resulted in 23 positive findings while their admirable environmental compliance record has earned them the highest rating during the external 2007 EOHCAMP; receiving four positive and zero significant negative findings. Our Team's follow-up shows an impressive closure rate with 83% of findings closed! The 2007 EOHCAMP visiting team awarded 21 special individual recognitions for Hill's outstanding contributions to the Air Force.



Our Team spent their ECAMP budget conservatively, using less than 20% per year on non-IT expenses. Most of the budget was wisely allocated toward a very valuable data system, the ESOHCAMP Tool, which managed the past three years worth of ESOHCAMP findings—roughly 1,700 entries readily available for



staff review and timely closure! The web-based system enables program managers to determine and enter root-cause analysis findings directly into the database so owning organizations can quickly and accurately address compliance issues as they are recorded.

Since FY05, our Team closely interacted with State regulators and inspectors to improve their relationship and compliance standing. We modified Hill's self inspection and audit procedures to emphasize greater efficiency and customer focus. For air quality alone, this new inspection philosophy reduced inspection management time by more than 70% and reduced air operating permit deviation by 80%. Our Team has performed over 2,500 internal audits, supported sustainability by avoiding compliance-related work stoppages, and earned a commendable compliance record with no FY07 enforcement actions.



community. We have been an active participant in the public-based program "Tree City USA", for 13 consecutive years. Hill nurtures 11,224 trees, an urban forest resource valued at \$15 million. In 2007, Hill sent 72 experts to a low-income tribal community to clean up a 30-year old F-4 aircraft crash that had impacted their sacred area. In order to properly restore the hillside to its natural environmental state, a diverse professional team was assembled. Civil engineers, explosive ordnance disposal experts, medical personnel, logisticians, an asbestos team, our Team archaeologist, and numerous volunteers worked together to revamp the legacy of a tragic accident. The Tribe is now very satisfied with the completed efforts. The Air Force families were also extremely appreciative of the perished airmen's personal possessions that were recovered and returned.



Effective Use of Funds

Our Team made significant strides in reducing costs associated with waste sources by establishing new base hazardous waste management methods, and creating a system that manages hazardous waste data. This system reduced weapon system maintenance costs by more than \$440,000 each year. Hill also saved more than \$64,000 annually by adopting a hazardous waste bulking system that consolidated disposal and drum costs. Furthermore, our Team has utilized yet another automated tool, a reimbursement tracking system, saving more than \$138,000 a year. Most recently, our Team invested in a machine for triple-rinsing waste barrels without the additional costs of outsourcing the operation. Hill is now able to decontaminate and recycle such barrels.

Community Relations

We go the extra mile to involve community stakeholders in base happenings. Hill embraces the 30-day public commenting period for permit negotiations because it allows our Team to gain public opinion about operations affecting the local

“ I want to thank Hill AFB and Colonel Chambers for the clean-up of the aircraft on our reservation. It means a lot to have that removed after 30 years and the land returned to its former condition. ”
Rupert Steel, Tribal Chairman
Confederated Tribes of the Goshute Indian Reservation

Beyond community relations, our Team actively worked with other regulatory agencies, and is currently working with EPA, DoD, and NASA to develop the Defense Land Systems and Miscellaneous Equipment NESHAP. Team members published and presented 30 scientific papers in the environmental technical community of journals and national and international conferences.

Educating both Hill personnel and the public about environmental concerns is of great importance. Our Team's online training system educated over 13,500 individuals on operational environmental topics. It eliminated the costs associated with classroom training, and increased availability to students via the web. We designed and administered site-specific 8-hour hazardous waste and emergency

response training for team members who support Hill readiness and disaster control teams. This effort helped Hill sustain its mission by providing 24-7 on-call environmental expertise to emergency response personnel as they respond to reported spills and emergency explosive ordnance treatments on base.

Our Team takes emergency planning and Community-Right-to-Know seriously. Through careful preparation of toxic release inventories and Tier II forms, and by interacting closely with the fire department, our Team takes a preemptive approach by striving to address potential issues as early as possible. Furthering Hill's consideration of health and safety hazards, we have also developed what is called the MSDS Search Engine, a web-based tool that provides more than 7,700 Material Safety Data Sheets to industrial base personnel.



National Environmental Policy Act (NEPA) Planning, Analysis, and Implementation

Our Team's outstanding NEPA operations processed more than 4,000 Air Force work request forms since 2005. They completed nine Environmental Assessments (EAs), over 58 environmental baseline waivers, and eight environmental baseline surveys. All FY07 military construction EAs were completed early, and a new programmatic baseline waiver reduced response time from seven days to one hour. A new web-based work request system submitted, stored, and processed request data, thus increasing productivity by 700%. It also reduced response time from six to nine months to less than 10 days! Our Team used

templates, examples, forms, and other preparation aids to ensure readability and brevity of NEPA documentation. Furthermore, the aforementioned automated tools and other beneficial devices helped streamline and sustain NEPA-related tasks.

Our Team demonstrated substantive involvement with the appropriate internal offices and exemplified working through proper channels. The team coordinated with other DoD facilities and served as an integral part of new workload acquisitions and bed-downs. They coordinated with the Bureau of Land Management, and state officials among others, to protect native animals and species on Hill land. They managed 317 archeological sites, and inventoried 154 sites of which 21 are eligible for the National Register of Historic Places. Our Team also coordinated with appropriate agencies to process over 250 forms for overseeing base historic buildings which total 364. Construction activities performed on historic buildings was closely monitored and mitigation was strongly encouraged.

Beyond that, our Team consulted with public stakeholders including 19 local Indian tribes and the National Park Service to conduct an ethnographic study of Air Force land. Our team goes out of their way to inform tribes such as the Northwestern Band of Shoshone and Skull Valley Goshutes of projects potentially affecting shared lands, and encouraged tribal involvement and input. We even conceived, organized, and hosted a Nation-to-Nation consultation among local tribes resulting in improved understanding of needs and harmony with our neighbors.

Conclusion

The success achieved at Hill has been recognized within the Air Force. In addition, many ideas conceived and implemented at Hill are adopted throughout the DoD. Our Environmental Quality Team at Hill has a proven strategy for prioritizing and implementing our program. These efforts include stakeholder involvement, early action, innovation, effective data management, and performance monitoring and verification. Our EMS, pollution prevention, waste reduction, ECAMP, cost reduction, community relations and NEPA accomplishments help Hill AFB support the three core Air Force values: *integrity first, service before self, and excellence in all we do.*