



FY 2009

# Secretary of Defense Environmental Awards

## SEYMOUR JOHNSON AIR FORCE BASE, NC

Secretary of Defense  
Environmental Quality Award

N O N - I N D U S T R I A L

Nominee: **4 CES/CEAN**  
**Natural Resources Element**  
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## Background

On October 1, 2008, the responsibility for managing environmental programs at Seymour Johnson AFB transitioned from the 4th Civil Engineer Squadron, Environmental Flight (4CES/CEV) to the 4th Civil Engineer Squadron, Asset Management Flight, Natural Resources Element (4CES/CEAN).

## Installation Description and History

Seymour Johnson Air Force Base (SJAFB), which is part of the Air Combat Command (ACC), is located on 3,216 acres in Wayne County, North Carolina, southeast of the City of Goldsboro. The workforce consists of 5,276 personnel, of which 4,298 are active military. The base is bounded on the northwest by Stoney Creek and on the southwest by the Neuse River. SJAFB also includes 47,926 acres of land outside the boundaries of the main facility, including:

- 1,065 acres of easements
- 46,606 acres of bombing range in Dare County, located 125 miles to the northeast
- Fort Fisher Recreational Area, a 100-acre former radar surveillance station located on Cape Fear in southeastern North Carolina



SJAFB was established five months after the United States entered World War II as a technical training school near Goldsboro, North Carolina. Seymour Johnson Field was activated in June 1942 as Headquarters, Technical School, Army Air Forces Technical Training Command. The base is named in honor of U.S. Navy Lt. Seymour A. Johnson, a native of Goldsboro. Johnson, a test pilot, was killed in an aircraft crash near Norbeck, Maryland on March 5, 1941.

Seymour Johnson Field was deactivated in May 1946, and the base was not reactivated until April 1956, when SJAFB became part of the Tactical Air Command (TAC). Three months later, the 83rd Fighter-Day Wing was assigned to the base as the primary unit. The 4th Fighter-Day Wing, redesignated the 4th Fighter Wing (4 FW) in April 1991, replaced the 83rd in December 1957.

Since reopening, the base has been home to B-52 bombers, KC-10 and KC-135 tankers from Strategic Air Command (SAC) and F-4 and F-16 fighters from the Michigan Air National Guard. In June 1992, the Air Force reorganized and SJAFB became an ACC installation with the 4 FW as the host unit. Aircraft currently flown at SJAFB include the F-15E Strike Eagle of the 4th Fighter Wing and the KC-135R Stratotanker of the 916th Air Refueling Wing, an Air Force Reserve tanker unit located at the base.

## Environmental Policy

The 4 FW regards its environmental awareness as an overall strength in its strategic planning and analysis. The Wing is committed to conserving and protecting the natural resources entrusted to the Air Force at SJAFB, Dare County Bomb Range, and the Fort Fisher Air Force Recreational Area while maintaining its status as one of the premier fighting units in the world. The 4th Fighter Wing's commitment to "Excellence In All We Do" is reflected by our commitment to continual improvement in environmental stewardship.

In order to maintain such excellence, the 4 FW leadership is engaged in the process to proactively identify and implement pollution prevention measures and best management practices to reduce the actual and potential impact to our environment while focusing on protection of the mission's natural



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infrastructure. The base acts, produces, and serves in a manner that ensures compliance with relevant environmental legislation, regulations, and other identified requirements. Protecting the health and well-being of our airmen, families, community, and environment by promoting the conservation and sustainable use of natural and manmade materials, and integrating sound practices into our daily decisions and activities is essential to mission accomplishment, which is the paramount objective of our operations.

### Environmental Management System

From Airmen Basic to the Wing Commander, SJAFCB personnel are engaged in the base's Environmental Management System (EMS). The EMS was developed in accordance with Executive Order 13148, Greening the Government through Leadership in Environmental Management (April 2000), and follows the ISO 14001 model. Even though Seymour Johnson is not required to have an ISO 14001 certifiable EMS, the base's environmental strategy includes key concepts and practices derived from the standard. Our EMS includes policies, programs, and processes that embrace many of the elements of a formal EMS detailed in the ISO 14001 standard.



Critical to the success of the base's EMS was recognition that Seymour Johnson has been successfully managing its environment for years. The EMS was never a new program, but rather an improvement to the foundation that already existed. People can be resistant to change or something new but often embrace the concept of continuous improvement. The EMS is not about terminology at Seymour Johnson. It is about personnel being aware of their potential impact to the environment and being trained on how to perform their duties to mitigate those impacts. Because of this, the Seymour Johnson EMS is a success.

Through the years, 4 FW leadership has consistently recognized the importance of managing the base's environment and the risk associated to the mission for failing to do so. To help direct and oversee the transition to an EMS, the Executive Steering Committee,

consisting of Group Commanders, ensured the continuous improvement concept was implemented base-wide. Now established, 4 FW leadership remains engaged in the EMS through the Environment, Safety, & Occupational Health Council.

The proven success of our EMS is evident in our compliance history, admission to the EPA Performance Track Program, and the recognition received from numerous entities.

### Sustained Compliance

The effectiveness and pervasiveness of the Seymour Johnson EMS is clearly demonstrated by our compliance history. The base has not received an enforcement action in more than five years. Our environmental programs withstood ten North Carolina Department of Environment and Natural Resources (NCDENR) inspections during FY08-FY09 with no notices of violation being issued. The inspections covered a broad range of programs, including four drinking water inspections, two RCRA hazardous waste inspections, two air quality inspections, a water quality inspection, and an underground storage tank inspection.

In addition to the state regulatory inspections, an Air Force external Environment, Safety, and Occupational Health Compliance Assessment and Management Program (ESOHCAMP) was conducted in April 2008. As a result



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of the extensive three day multi-media assessment, only eleven environmental findings were issued. This represented a 66% reduction in findings compared to the previous external ESOHCAMP conducted in November 2005. In addition to the remarkable decrease in environmental findings, 91% were corrected and closed within four months, and the remaining finding was closed when funds were provided.

### Performance Track

The strength of our EMS, our history of sustained compliance, and our demonstrated commitment to improving and enhancing the natural resources entrusted to us was recognized in November of 2007 when SJAFB was one of the first Air Force bases to be accepted into the United States Environmental Protection Agency's (EPA) Performance Track Program. Admission into the program required an independent review and assessment of the base's environmental programs that included a comprehensive fifteen page checklist for which all applicable items were answered in the affirmative. SJAFB made four environmental commitments as required for application. The commitments included hazardous material reduction, energy use reduction, natural habitat increase, and solid waste reduction.

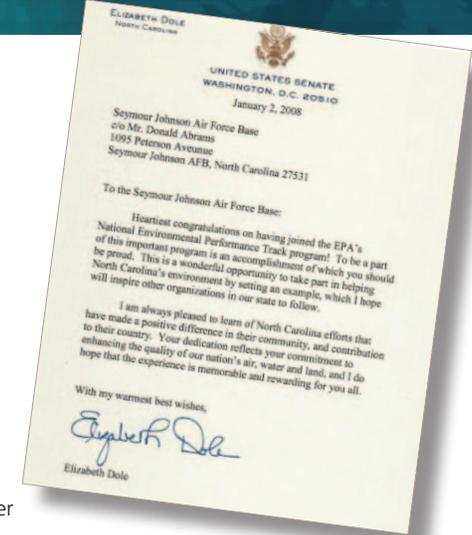
Our acceptance into Performance Track was applauded by U. S. Senator Elizabeth Dole. In a January 2008 letter, Senator Dole recognized our "commitment to enhancing our nation's air, water, and land." Unfortunately, the EPA discontinued the Performance Track Program in 2009. However, we continue to comply with the spirit and intent of the program, achieving three of the four commitments within the first reporting year, and we continue to make strides toward achieving the fourth.

### Environmental Plans

The Natural Resources Element endeavors to develop and update all required environmental plans using in-house staff whenever possible. This policy fosters an attitude of program ownership, requires managers to become subject matter experts in relevant regulations and base operations, and saves the Air Force, and ultimately the taxpayer, significant dollars.

The Storm Water Pollution Prevention Plan has been updated annually for the last seven years. The effort includes completing two semi-annual qualitative inspection reports of fifteen storm water outfalls, an annual quantitative sampling and monitoring report, an annual Comprehensive Site Compliance Evaluation, and an annual assessment and listing of storm water Best Management

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The Dole Letter

Practices and projects. The effort saves more than \$40K annually compared to contract cost to complete.

The Seymour Johnson Spill Prevention, Control, and Countermeasures (SPCC) Plan was updated in-house in October 2008 to incorporate and comply with newly promulgated regulations. The amended SPCC plan exceeds the EPA's November 10, 2010 deadline by more than two years and ensures the base and surrounding community are protected from the devastating impacts a major oil spill could produce. Because there are three registered professional engineers on staff, the plan was amended internally, saving nearly \$50K versus contract cost.

The Hazardous Waste Management Plan, the Hazardous Waste 90-Day Contingency Plan, and the Wastewater Slug Prevention Plan are three of the six plans updated in-house.



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## Hazardous Waste Management

The Seymour Johnson Hazardous Waste Management Program is recognized as a model of effectiveness and efficiency. The program has endured annual inspections by NCDENR for fourteen consecutive years without a finding. The state inspector has noted on several occasions that the program is one of the best in North Carolina.



At Seymour Johnson, hazardous waste management begins with a robust hazardous material procurement strategy. The program requires all materials to be authorized in the Enterprise Environment, Safety, and Occupational Health — Management Information System (EESOH-MIS). The system mandates that all requests for hazmat be reviewed by the Safety,



Bio-Environmental, and Asset Management offices prior to disbursement. The review ensures non-hazardous or less hazardous substitutes are evaluated and procured, where feasible.

The “You Call, We Haul” concept was developed in 1995 to provide outstanding customer service, reduce regulatory liability, and reduce costs. The system allows Satellite Accumulation Point (SAP) managers to make a single phone call resulting in the pick-up and transportation of hazardous waste containers, the delivery of new, appropriately labeled containers, and the generation of turn-in documents.

The hazardous waste management strategy has reduced the amount of waste disposed by 80% compared to the 1992 baseline, and has reduced the cost of disposal by more than \$32K annually.

Effective management of mercury containing devices, fluorescent tubes and batteries as universal waste, also reduces hazardous waste disposal costs by nearly \$35K annually.

## Drinking Water

The base is required to provide an uninterrupted supply of safe, compliant drinking water and toward that end worked with an environmental consulting firm, AECOM, to model the water distribution system and identify areas susceptible to



low flow, low pressure, and low disinfection concentrations. The resulting management plan, hydraulic and water quality models, and Uni-Directional Flow Plan that were developed provide the base with an analysis of existing hydraulic and water quality conditions, and supply tools for future management strategy development.



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The established goals of the Water Distribution System Analysis and Improvement Project were as follows:

- Identify, locate, and describe the infrastructural assets associated with the base water distribution system and update the base geodatabase with the information;
- Describe the water system capacity through the development of a computer hydraulic model which represented the physical water system;
- Develop a Drinking Water Systems Management Plan for the base which would serve as a simple and concise guide to assist in managing the drinking water environmental compliance program and would contain baseline information, estimates for future needs, implementation strategies to close shortfalls, and procedures for managing water systems;
- Prepare a dynamic, step-by-step, Uni-Directional Flushing Plan for the base drinking water system.

Through this broad range approach, the project goals were achieved and Seymour Johnson AFB now has the tools to proactively address water quantity, quality, and fire fighting needs in support of the 4th Fighter Wing's primary mission — to provide airpower on-target, on-time for America. The project earned an Honors Award for Engineering Excellence given by the American Council of Engineering Companies of North Carolina.

### One Cleanup

The One Cleanup Program was implemented in October 2008. The program combines all cleanup requirements, including RCRA, UST, and ERA sites, into a single program. The Air Force goals for One Cleanup include Remedy-in-Place (RIP) by the end of FY2012 and Site Closure by 2015. SJAFB achieved RIP for all sites by 2007 and is on track to have all sites closed by 2012. Innovative approaches to cleanup are employed to shorten the timeline to closure and return the sites to the base for future use. Surfactant injection and excavation were used to accelerate remediation of a Radar Tower site which returned the site to the base two years ahead of conventional treatment in place. Hydrogen infusion is being used at a former waste storage area to maintain favorable conditions for anaerobic bacteria contributing

to reductive-dechlorination. This approach reduced solvent concentrations by more than 90% within six months. Solar panels are used to power the injection system at this site, and a solar powered aeration system is in use at a former pipeline leak to expedite fuel biodegradation with no additional energy costs.



A former coal pile site was closed by using a compost blend and a special-order deep tilling roto-tiller to mix the soil and speed up natural attenuation. Over a thousand pine trees were planted on the site to return it to natural conditions. Thousands of gallons of a potassium permanganate mixture were injected into a former fire training area to enhance the chemical oxidation of the contaminants and reduce treatment time.



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The One Cleanup Program continues to exceed goals through effective and efficient technologies to ensure formerly contaminated sites are “cleaner and greener.”

### Community Relations, Outreach, and Partnering

In 2008, our community relations and outreach program was rejuvenated when SJAFB “Released the BEAST.” Our environment and energy awareness mascot, Airman eBEAST (**B**uy and use recycled and bio-based products, **E**ncourage friends and family to think green, **A**ct to protect land, air, water and animals, **S**ort recyclable materials, **T**urn off lights and water when not being used), interacted enthusiastically with crowds, young and old, within the



base, the community, and the Air Force. The BEAST was a hit with nearly 100,000 visitors at the 2009 Wings Over Wayne Open House and Air Show, where he encouraged kids from eight months to eighty years to sign pledges to become stewards of the environment. He recruited more than 200 young eBEASTs during an Earth Day visit, and made a surprise appearance at the 2009 Air Force Environmental Symposium in St. Louis, where he caught the attention of the Air Combat Command Civil Engineer, Major General Tim Byers.

The base continues a long established partnership with the City of Goldsboro and

NC Department of Environment and Natural Resources through the H2O Working Group. The working group also includes other base stakeholders, including Bio-environmental Engineering, Utilities shop, and Engineering. The partners meet monthly to discuss relevant drinking water issues, including new regulations, drought conditions, and measures to improve/maintain water quality.



Major General Tim Byers with the BEAST

### Conclusion

Seymour Johnson AFB continues to lead the way in environmental quality programs by protecting the environment and the 4th Fighter Wing mission. The base demonstrates 24/7 that mission and environmental stewardship are **NOT** mutually exclusive, but they are indeed, synergistic.

