

2003 CNO/Secretary of the Navy Environmental Award
Environmental Quality - Individual



Ms. Kristi Unzicker
Environmental Scientist
Navy Public Works Center, Norfolk
Regional Environmental Group

Background

Kristi M. Unzicker
Environmental Scientist, GS-11
Regional Environmental Group
Navy Public Works Center, Norfolk

Position Description

Kristi Unzicker is one of four water program managers on the staff of the Regional Environmental Group at Navy Public Works Center, Norfolk. The Regional Environmental Group manages environmental compliance at: Naval Station Norfolk; Naval Air Station Oceana; Naval Amphibious Base Little Creek and Naval Weapons Station Yorktown. Kristi manages environmental compliance for the storm water, sanitary sewage and potable water programs at Naval Station Norfolk. Kristi is responsible for ensuring permit and regulatory compliance, preparing and submitting regulatory and permit monitoring reports, maintaining permit compliance records, and representing the Navy during regulatory inspections. Kristi is also responsible for investigating environmental compliance problems, determining the most appropriate and cost effective resolution, developing and implementing facility upgrade projects and environmental studies and reviewing proposed construction projects to ensure environmental compliance.

The Naval Station's Virginia Pollutant Discharge Elimination System (VPDES) storm water permit is the largest permit in the state of Virginia, with 207 permitted outfalls and over 7800 drop inlets. The permit covers regulated activities for 80 tenant commands. During FY03, the facility was also issued a Storm Water Phase II permit regulating all of Naval Station, including 9 housing areas. The facility discharges over 2 million gallons of sanitary sewage each day to a local publicly owned treatment plant. The sanitary sewage permit requires over 300 monitoring samples per year and regulates 71 pretreatment devices at the facility. The facility purchases potable water from the local municipality and the permit requires over 600 samples a year to ensure the approximately 50,000 customers are provided with safe drinking water.



Aerial View of Naval Station, Norfolk

Typical projects Kristi has initiated include: updating facility storm water drainage maps; modifying aircraft washracks; rerouting illicit storm water discharges to the sanitary sewer; and preparing environmental permit applications. Kristi routinely coordinates her efforts with other members of the Regional Environmental Group staff; Navy Public Works Center Utilities, Engineering and Facilities staffs; Naval Station Norfolk tenants; Atlantic Division Naval Facilities Engineering Command; and the Resident Office in Charge of Construction to address environmental issues.

Accomplishments

EMS Implementation – Kristi has made great efforts to incorporate EMS principles into the water program and to prepare for the inclusion of the program into the command EMS program once it is developed.

Storm Water: Kristi inventoried sites and processes at Naval Station, performing an aspect/impact analysis to prioritize wastewater aspects for implementation of Best Management Practices (BMPs) and performance of periodic compliance inspections. She then developed and implemented BMPs at high risk sites to minimize environmental impacts. Kristi prepared inspection checklists and written policies and instructions detailing how to conduct the compliance inspections. The inspection program includes routine tenant self inspections, quarterly environmental staff oversight inspections, and annual program assessment reviews conducted by Kristi. Kristi trained environmental department inspection personnel both on how to conduct water compliance inspections and how to train tenant command personnel so they could perform routine self inspections.

Kristi takes the lead in preparing annual water program reviews. The four water program managers prepare a written program review, which is briefed to senior management. The review includes accomplishments from the previous year and the goals for the upcoming year.

Environmental Laboratory: Kristi worked closely with the laboratory that performs the water program permit sampling to develop a sampling and laboratory analysis tracking system. The tracking system documents all required water program sampling and is used to ensure all permit sampling is performed. She implemented quarterly stakeholder meetings with the laboratory and the other water program managers to resolve sampling problems and prioritize future sampling events.

Water Pollution Control – The majority of Kristi’s efforts are devoted to the management of the water program, which includes storm water, sanitary sewage and potable water permit management and regulatory compliance.

Virginia Discharge Elimination System Permit: The Naval Station permit regulates storm water and process wastewater discharges to the Chesapeake Bay watershed from sources ranging from oil water separators at bulk fuel farms to steam plant ion exchange column

regeneration processes. Kristi's significant accomplishments during the last two years include:

- Rewriting and updating the Storm Water Pollution Prevention Plan (SWPPP) for Naval Station. Kristi conducted a thorough inspection and review of the facility's inventories and rewrote the SWPPP to better suit the needs of the facility. All updates were previously performed by outside contractors, by performing the work herself, Kristi was able to obtain a more accurate SWPPP and save approximately \$200,000.
- Internal preparation of the 2003 Naval Station Annual Site Compliance Evaluation. By conducting the evaluation herself, instead of hiring a contractor, she saved approximately \$40,000.
- Development of an outfall sampling plan, including maps and pictures documenting the sampling locations, required sampling conditions and the monitored parameters. The plan is an integral component of the wastewater EMS system, both as documentation of the permit sampling process and as a tool for the samplers to use to ensure all required samples are taken. Kristi prepared this plan herself saving over \$10,000.
- Assisted the underground storage tank manager by preparing a VPDES permit reapplication for a large bulk fuel storage tank remediation site, saving approximately \$20,000.
- Development of a plan to visually observe and document storm water discharges from numerous outfalls across the Naval Station in accordance with new permit requirements. The visual observations are also used to ensure the successful implementation of point source storm water best management practices. Kristi has performed many of these observations herself, as well as utilizing the laboratory samplers and Regional Environmental Group inspection staff where appropriate and cost effective.
- Identification of high copper and zinc discharges in storm water across Naval Station and the initiation of studies to identify the sources. The information collected during the studies was used to determine the appropriate course of action to address elevated copper and zinc levels in storm water, prior to the regulator including discharge limits when the permit is reissued in FY05. The studies have determined that most elevated copper and zinc levels were due to architectural sources such as building roofing and downspouts. Kristi has used the studies to show the regulator that control of the existing architectural sources of copper and zinc is not warranted due to the impracticability and high cost.
- Development of a computerized Storm Water Pollution Prevention Plan (SWPPP) database that greatly simplifies the annual site compliance evaluation process and gives the water program managers the ability to continuously update both the narrative portion of the SWPPP as well as required aspect inventories, such as outdoor material storage areas. The project was a collaborative effort between Atlantic Division, Naval Facilities Engineering Command and the water program managers. Kristi took the lead on evaluating and beta testing the database, she also prepared a database exhibit for the December 2001 Navy and Marine Corps Water Program Manager Conference and participated in the demo of the database at

the conference. The database is currently being used by several Navy and Marine Corps activities.

- Upgrades to aircraft washracks to ensure environmental compliance and continued mission support. Kristi initiated facility upgrade projects to install automatic diversion valves that divert water from storm to sanitary as required by facility permits. The installation of automatic valves eliminates the element of human error and prevents permit violations, caused by improper manual valve operation. Kristi worked with personnel from several helicopter squadrons and the regional pollution prevention program manager to obtain and install an aircraft engine washing berm that allowed squadrons to continue washing engines after the permanent washrack had to be secured for maintenance.
- Kristi worked with helicopter squadron personnel and the regional pollution prevention program manager to develop an innovative method to remove oil stained areas from helicopter fueling areas on the runway apron. This process found an additional use for underutilized equipment originally intended to recover aircraft deicing liquid.



Cleaning oil stains on helicopter fueling area

Storm Water Phase II Permit: During the FY02/03 period, Virginia implemented permit regulations to control non-point source pollution from small municipal separate storm sewer systems. Kristi's significant accomplishments in this program include:

- Establishment of a permitting strategy, preparation of permit applications and wavier requests. Kristi participated in a team effort with the other water program managers, Atlantic Division Naval Facilities Engineering Command and the regulators to develop and implement a permitting and compliance strategy for these new regulations. Kristi played a key role in determining which facilities would be impacted by the regulations and what compliance measures would be appropriate. She prepared and submitted permit wavier requests and coordinated regulator visits to the sites to explain why waivers should be granted. Her efforts were successful in obtaining seven of nine waivers, greatly reducing the cost and effort required for the command to comply with this new environmental requirement.

- Development of a post construction best management practice program and instruction for implementation at all regional activities. The instruction establishes the standard storm water control measures that will be required in future construction projects.
- Implementation of a public education program concerning storm water pollution prevention.. Kristi participated in a Navy-wide project to develop brochures for Phase II permit holders, providing pictures and comments on content. She also prepared two articles for the publication in the local Navy newspapers and was granted permission to display storm water pollution prevention tips on the rolling message boards at several facilities.

Sanitary Sewage Program: The Naval Station discharges sanitary sewage to a local municipal authority. Kristi’s significant accomplishments during the last two years include:

- Working with the Public Works Center Utilities staff and the regulators to clarify notification requirements for sanitary line cleaning and developed a written sewer line cleaning notification standard operating procedure. The procedure allows for routine system cleaning while protecting the municipal authority from slug loadings of high strength waste. Previous misunderstandings had resulted in permit violations at other regional facilities.
- Distribution of a brochure detailing proper disposal methods for cooking oil and food grease. Disposal of these wastes into the sanitary sewer system had lead to sewage spills due to clogged lines and additional system maintenance costs due to the need to remove accumulated grease from lines and pump stations.
- Obtained permission to dispose of airfield crash truck fire fighting foam resulting from routine operational testing of airfield crash trucks into the sanitary sewer system, saving approximately \$70,000 annually. Kristi also developed and implemented an upgrade project for an aircraft washrack to allow it be readily used for both aircraft washing and crash truck testing.



Modified aircraft washrack



Crash truck discharging fire fighting foam onto washrack

- Obtaining permission to dispose of several thousand gallons of water contaminated with fire fighting foam during a MILCON construction project. Kristi’s effort prevented a construction delay and averted a \$20,000 expense for off-site disposal.

- Coordination with the Naval Station Norfolk, Branch Dental Clinic to resolve recurring permit violations for mercury. Kristi worked with Naval Dental Region Mid-Atlantic staff, experts from the Naval Institute of Dental and Biomedical Research and the regulator to identify the numerous sources of mercury at the clinic. Kristi also assisted in finding solutions to prevent future mercury violations, including modifying the pretreatment system and cleaning residual mercury contaminated sediment from the clinic piping system.
- Coordinated the disposal of wastewater remaining in the missile tubes of three submarines returning from combat. Kristi worked closely with the Submarine Squadron Support Unit, Norfolk (SSSU) and a representative from Naval Sea Systems Command to classify the wastewater: she arranged for sampling, reviewed laboratory results and obtained permission to dispose of low concentration wastewater in the sanitary sewer system. Kristi went well above and beyond the requirements of her position by coordinating for the collection and disposal of high strength wastes, assisting SSSU by coordinating the offload with Industrial Hygiene, and agreeing to a request by SSSU that she be present during the offloads. Her assistance saved the Navy over \$5,000 in disposal costs and received the following praise from a LCDR at SSSU “Your support of dewatering USS BOISE and USS NEWPORT NEWS was excellent, thank you”.

Spill Prevention and Response: Kristi is a member of the Commander Navy Region Mid-Atlantic Spill Management Team, tasked with supporting the Navy on Scene Commander with spill and disaster response. Kristi has participated in several drills and training exercises to ensure that she is fully prepared to respond to a major spill. Kristi has also assisted the Spill Prevention Control and Countermeasures (SPCC) program manager to identify high risk fuel storage tanks that should be included in either the SPCC Plan or the Storm Water Pollution Prevention Plan. To minimize the chance of oil releases from oil water separators, Kristi developed a process for routine inspection and cleaning and successfully obtained facility maintenance funding for the effort.

Water Conservation: Kristi has worked with projects to install water conserving faucets and showerheads in several Naval Station buildings. She also provided funding to install water conserving washing machines in the Naval Station, Norfolk Brig.

Potable Water: The Naval Station purchases drinking water from the local municipality and has been issued a consecutive waterworks permit by the Virginia Department of Health, which Kristi is responsible for managing. Kristi prepared and updated the required bacteriological monitoring plan. As new requirements concerning disinfection/disinfection byproducts emerged, Kristi wrote a disinfection/disinfection byproduct monitoring plan and implemented new sampling and reporting requirements. Kristi has been able to save approximately \$25,000 by doing this work herself. Kristi also responds to numerous customer concerns regarding the quality of their drinking water. Kristi works with Public Works Center Utilities to determine the most appropriate manner to manage the aging potable water system infrastructure and provide safe drinking water to Naval Station personnel.

Environmental Research and Education – Kristi has devoted significant effort to raise environmental awareness, train individuals both on and off the Naval Station and involve the community in the water program. Some of Kristi’s initiatives include:

- Prepared and presented a water compliance program training brief for a Navy Civil Engineer Corps Officers (CECOS) Public Works Officer training class held at Naval Amphibious Base Little Creek. Kristi provided a thorough review of the storm water, drinking water and sanitary sewage compliance program as related to Public Works operations.
- Provides annual water program awareness training to tenant personnel and Regional Environmental compliance inspectors. This training raises the environmental awareness of the attendees by providing them the background on the water program and the actions that they can take to improve water quality.
- Briefed the staff of Norfolk International Terminal (NIT), a cargo vessel container yard located adjacent to Naval Station, on the Navy’s support of Low Impact Development (LID). She presented various LID strategies and the possible storm water pollution reduction benefits during NIT’s annual Storm Water Pollution Prevention Training.
- Provided the Regional Environmental Group compliance inspectors with in the field training on what to look for when conducting storm water inspections, resolutions for typical problems found and how to properly document the inspection results. Kristi’s efforts, and her demonstration that she is genuinely concerned about the environment, has set an example for both the tenants and the Regional Environmental Group inspectors.
- Use of rolling message boards at several Hampton Roads facilities to increase environmental awareness of facility personnel. Kristi prepared a short and catchy pollution prevention message which she had displayed on the message boards near the base entrances throughout the Hampton Roads region. Her “No Butts” message, reminding personnel that cigarette butts dropped on the ground wash into the local waterways, received praise from the Commander Navy Region, Mid-Atlantic Chief of Staff.
- Support of a Naval Sea Systems Command development project for a “environmentally friendly” underwater hull cleaning system which is intended to be used to remove marine growth from naval vessel hulls while pier side. Kristi worked with the local municipal sewage treatment authority to determine what the acceptable contamination levels would be for hull cleaning wastewater discharged to the sanitary sewer system. Kristi effort assisted in the development of a wastewater treatment technology for the hull cleaning system.

Environmental Compliance Assessment and Management

Program – Kristi continuously reviews the compliance status of the water program to ensure that problems are corrected well ahead of regulatory inspections. In addition to Kristi’s assessment and management initiatives discussed in the EMS and Water Pollution Control sections of this award package, Kristi’s accomplishments include:

- Enhanced rapport with regulatory agencies. Kristi responds quickly to regulator requests, whether the request is for a status report or a corrective action. Kristi is the Navy's representative during all Naval Station water program inspections, escorting the regulator throughout the facility and providing all requested compliance records. After implementation of enhanced force protection measures prevented the local sanitation authority from obtaining permit compliance samples at Naval Station, Kristi worked out a compromise with the sanitation authority and Naval Station Security.
- Management of water program budget to sustain current compliance efforts, decrease long term program costs and obtain funding for future requirements. Kristi continuously updates the Environmental Program Requirements (EPR) database water exhibits for Naval Station, creating exhibits for new projects, as well as adding future funding requirements. Kristi successfully manages a recurring budget of approximately \$250,000.

NEPA Analysis – Kristi has worked with the NEPA program manager to develop water program questions for the NEPA review checklist used for all proposed projects. The questions ensure that potential water compliance issues are identified during the NEPA process. Kristi has also reviewed numerous proposed projects and provided comments on how the projects should be changed to protect water quality.

Awards and Service



CAPT Aucremanne, CO PWC Norfolk, presents Ms. Unzicker with the Employee of the Year Award, October 2003.

In October 2003, Kristi was honored as the PWC Employee of the Year for 2003. Her efforts to enhance the environmental compliance program have earned her the respect and admiration of

Naval Station tenants, regulators and most significantly, her coworkers. Kristi has invested a great amount of time in field work, conducting site visits to provide assistance and guidance and also oversee contractor work. Her can do attitude and ability to think of innovative solutions, has saved the Navy hundreds of thousands of dollars, while providing outstanding mission support service.

Kristi has always been an exemplary employee, continually earning performance awards. She is always willing to tackle new projects and to assist others. Kristi exemplifies the ideal environmental program manager.