

CNO ENVIRONMENTAL QUALITY LARGE SHIP AWARD NARRATIVE

1 Introduction.

1.1 Mission. The USS RONALD REAGAN (RRN), her air wing, and her crew make up the most effective and versatile fighting vessel in the world. Our versatility allows us to directly support all of the Navy's core missions; in most cases we serve as the center piece for these missions. In conducting these missions our priorities are:

- Defend the Ship - Without an effective fighting ship nothing else is possible. All other priorities must be subordinate to protecting the ship and keeping her operational.
- Support the Staff - The power of our strike group comes from coordinating all our assets effectively.
- Support the Air Wing - The air wing is at the tip of the spear of a long sequence of events that puts weapons on targets.

1.2 Crew Size: RRN crew (2,894); Embarked Staff (119); Embarked Squadron (operational) (22); and Embarked Air Wing (operational) (1,291)

1.3 Home Port. NAS North Island, San Diego, CA

2 Background.

2.1 Environmental challenges.

2.1.1 The Tohoku earthquake and tsunami in Japan which led to Operation TOMODACHI presented the unanticipated environmental challenge of radioactive contamination. RRN had to coordinate with various agencies to formulate a decontamination policy in support of humanitarian assistance/disaster relief (HA/DR) operations. Implementation required procurement of special equipment necessary to decontaminate the ship, aircraft, support equipment and other gear. Special handling, storage and disposal pathways were developed for contaminated items and contaminated waste. Finally the ship developed and attained radiological standards necessary to successfully operate in the 7th and 5th Fleet AORs.

2.1.2 Nine port calls made to various countries and regions during the past two years were coordinated through husbanding agents, area environmental coordinators, and the local environmental coordinators to ensure the RRN was informed and the crew took all the necessary actions to remain in environmental compliance with local, regional and US laws and regulations.

2.1.3 RONALD REAGAN conducted three shipyard availabilities covering a total of seven months during the past two years. External challenges faced during the availabilities included coordination with outside agencies, such as shipyard workers and contractors, and abiding by environmental policies unique to large industrial processes. Reagan succeeded in spite

CNO ENVIRONMENTAL QUALITY LARGE SHIP AWARD NARRATIVE

of the increase in environmental restrictions and visibility during all of the large-scale and unfamiliar repair work.

2.2 Environmental management, organization, and staffing. Oversight for environmental program compliance was conducted through annual audits and a collection of progress updates on identified deficiencies. Safety Department created a Matrix to define environmental areas of responsibility, conduct annual audits, and maintain progress updates. This matrix cross-references OPNAVINST 5090.1C Appendix K and INSURV checklist items with responsible departments and divisions to assign management and ownership of programs. Additional oversight was held by the Environmental Council. The Council met quarterly to monitor the ship's compliance with environmental laws and how they affect the mission and operations, and assess the need for special training, equipment, and support personnel.

2.3 Environmental guidance, directives, and plans. The following list contains RRN environmental guidance, these instructions are reviewed annually, and revised/updated as needed.

2.3.1 REAGANINST 1412.2A, Bridge Watch Officer Qualification Requirements, 1 FEB 07.

2.3.2 REAGANINST 1601.3A, Bridge Watch Team Notebook, 21 NOV 08.

2.3.3 REAGANINST 3210.1E, Commanding Officer's Standing Orders for Underway Watches, 20 MAY 11.

2.3.4 REAGANINST 3173.1C, Boat Bill, 31 OCT 10.

2.3.5 REAGANINST 4021.1A, Over the Side Spill Contingency Plan (Draft), XX SEP 11.

2.3.6 REAGANINST 5090.1, Shipboard Medical/Dental Waste Management Plan, 19 SEP 02.

2.3.7 REAGANINST 5100.1A, Hazardous Material (HM) Control and Management Program, 28 NOV 11.

2.3.8 REAGANINST 5100.2, Lead Control, 20 AUG 10.

2.3.9 REAGANINST 5100.17, Toxic Gas Bill, 7 JAN 08.

2.3.10 REAGANINST 8512.1, OTTO Fuel II Spills and MK-46 Torpedo Handling Mishaps, 17 JAN 08.

2.3.11 REAGANINST 9593.1, Shipboard Solid Waste Management Program, 24 OCT 02.

3 Program Summary.

3.1 Environmental program and compliance with Chapter 22 and Appendix K of OPNAVINST 5090.1C. Operational tempo was high the past two years with the ship underway 17 of 24 months on surges, exercises and deployment. Preparations for the 2010 INSURV were completed during a three month RIMPAC exercise, with the ship returning just 11 days before the inspection. INSURV had recently started assessing environmental programs and RRN preparations identified many deficiencies in which programs were

CNO ENVIRONMENTAL QUALITY LARGE SHIP AWARD NARRATIVE

non-existent. RRN persevered and addressed these deficiencies resulting in an INSURV score 9% above the CVN average for the combined Environmental Programs. Additionally, an official baseline assessment was conducted in March 2011 utilizing OPNAVINST 5090.1C Appendix K. RRN was 90% compliant with the 91 item checklist and progress. The 9 deficiencies identified were already being tracked by the ship. All deficiencies have been corrected with one exception that is a noted ship system configuration design flaw.

3.2 Most outstanding program features and accomplishments.

3.2.1 During Operation TOMODACHI the ship worked with various commands to formulate procedures for decontamination efforts in support of HA/DR operations. Execution of 179,808 man-hours was as follows: (1) Procuring roughly \$290,000 in survey, decontamination and replacement equipment; (2) Coordinating the disposal of contaminated items; (3) Mapping contamination through radiological surveys; and (4) Decontaminating as necessary to ensure operational readiness. Radiological surveys included frisking 2,336 aircraft parts, 3,302 ground support equipment parts, 2,004 spaces, 423 ventilation system parts, and 1,848 personnel. Additionally, 43 potable water tank and 1,243 air samples were taken.

3.2.2 RRN led from the front in coordinating with local and regional environmental area contacts and created preemptive tailored contingency spill plans for each port visited. These plans gave RRN leadership and personnel the knowledge and means to ensure environmental compliance with local and national laws and regulations and to respond to all environmental issues.

3.2.3 Increasing the level of environmental training compliance was one of the most demanding challenges; requiring synchronization within and outside the command. Specific training accomplishments are reflected below:

3.2.1.1 To ensure environmental program continuity and compliance with environmental regulations and to raise ship awareness, two additional Safety Department personnel qualified as Afloat Environmental Protection Coordinators. Additionally, the following 11 command-wide training events were completed: Your Ship, The Environment, and You (JUL 10, JUL 11, and AUG 11); Command Environmental Protection (AUG 11 and JUL 11); Hazardous Material Spill Response (AUG 10 and AUG 11); HMUG & HAZMAT waste prevention (NOV 09 and NOV 10) and; Lead Safety (MAR 10 and MAR 11). Additionally, Command Environmental Protection became part of the Safety Indoctrination for all new check-ins and contained topics from additional divisional training including Spill Response and Pollution Prevention.

3.2.1.2 Reactor Department worked diligently to obtain and utilize quotas for the Oil Pollution Abatement

CNO ENVIRONMENTAL QUALITY LARGE SHIP AWARD NARRATIVE

course. By September 2011, RRN increased the number of qualified supervisors from zero to nine, three times the number required.

3.2.1.3 All personnel in divisions responsible for operating and maintaining oil process, transfer or disposal equipment are required to complete the NAVEDTRA 43704-302 PQS. Additionally, each Inport Emergency Fire Team must have a Spill Response Clean-Up Supervisor qualified in NAVEDTRA 43704-324. Reagan went from having zero personnel qualified in 302 & 324 to having 94 personnel qualified in the 302 PQS and 13 Duty Fire Marshalls qualified in the 324 PQS.

3.2.1.4 Despite the high Operational Tempo, 11 over-the-side spill drills were conducted in 2011 ensuring IET and other watch personnel were trained in spill response. This corrected the 2011 Environmental Baseline deficiency and exceeded OPNAVINST requirements. Additionally, the ship responded to and reported on two actual sheen sightings.

4 Accomplishments

4.1 Air Pollution Control Practices and Improvements.

4.1.1 Engine emission control efforts.

To reduce Emergency Diesel Generator emissions, generators were only operated during required maintenance, emergent situations, and per Steam Plant Manual OI 18 Series. Additionally, emissions were reduced through the additional training of "Minimizing exhaust smoke and emissions", Diesel Trend Analyses, the Maintenance and Material Management (3M) Planned Maintenance System (PMS), minimizing run times, and EDG spark arrestors that screened and prevented carbon molecules in exhaust.

4.1.2 Refrigerant use reduction efforts.

The Air Conditioning and Refrigeration (A/C&R) shop onboard reduces refrigerant use and loss by utilizing installed Halon Carbon Monitors, conducting 3M PMS, checking for leaks during any maintenance, monitoring gages in operating A/C plants hourly, and reusing refrigerant evacuated to a storage tank during system repairs. Also, AC&R personnel investigate any drop in refrigerant levels of operating A/C plants.

4.1.3 Volatile organic compound release minimization.

Air Pollution Prevention training, to include ways to reduce Volatile Organic Compound releases, was created and placed in the 2011 and 2012 Command Long Range Training Plan as an annual requirement and implemented into 2011 Indoctrination. Ninety percent of the command completed the training in 2011.

4.2 Water Pollution Control.

4.2.1 CHT system management practices. The Engineering Repair Division manages the sewage system utilizing visible and audible alarms in Damage Control Central and maintains the

CNO ENVIRONMENTAL QUALITY LARGE SHIP AWARD NARRATIVE

system through 3M PMS. All duty sections have qualified personnel trained to handle CHT spills and leakage.

4.2.2 Oil and Hazardous Substance Spill Prevention and Response. Many facets of spill prevention and response were non-existent due to lack of outside assessments on environmental programs in previous years. Therefore, a complete revision and update of the Oil and Hazardous Substance Spill Contingency Plan was coordinated. As a result, the new plan empowered personnel with tools, forms, templates, and contacts to address and respond to environmental issues while underway, inport, and during yard periods. In addition, four over the side and five HAZMAT spill kits were procured, Inport Emergency Teams were trained on spill response, 11 over-the-side spill drills were conducted, and command wide spill prevention and response training was held. These command-wide coordinated efforts corrected environmental deficiencies in a short time.

4.2.3 Oily waste system (OWS) management and oil content monitor capabilities. Underway and at a minimum of 50 miles from land, the OWS pumps out a rate of 50 gallons per minute, while the oil content monitor keeps the amount released well under 15 ppm. Inport, the ship transfers at a pump rate of 90 gallons per minute (no content monitor) to SHAW NAVFAC tanks on Naval Air Station North Island. All OWS operators and pier watches attended SHAW NAVFAC training on pumping requirements, spill prevention and cleanup, and safe practices. Additional divisional quarterly training was held on OWS operation and spill prevention. As a result of safe practices and effective training, the command had zero OWS incidents.

4.3 Solid Waste Management and Resource Recovery.

4.3.1 Solid waste management practices. While inport, shipboard waste is processed in pier dumpsters and trash is not segregated by material, with the exception of wood, cardboard and bulk metal. Shipboard solid waste is grouped into four categories underway: Dunnage, metal/glass, plastics and pulpable materials. Waste Management personnel inspect solid waste delivered to the waste processing rooms to ensure proper sorting and handling procedures for compliance with all federal, state and local regulations. All waste management personnel are trained and qualified for the control and disposal of solid waste. Command-wide trash segregation training is conducted before long underway periods and during indoctrination. Permission from the Chief of the Watch, Engineering Officer of the Watch (EOOW), and Officer of the Deck (OOD) is required before any item may be disposed of over the side. Individual underway trash processes follow:

4.3.1.1 Plastics and cardboard are never discharged over the side. Six Compressed Melt Units (CMUs) are

CNO ENVIRONMENTAL QUALITY LARGE SHIP AWARD NARRATIVE

used to turn plastic waste into plastic pucks, which are collected in tri-walls. A bailer compresses cardboard into cubes for transfer ashore.

4.3.1.2 Pulped materials, including food and paper waste, are processed by two large and one small pulper. Waste is then passed through a screen, discharging material no larger than 12 millimeters, when the ship is beyond three nautical miles (NM) from shore.

4.3.1.3 Glass and aluminum, which are shredded, and dunnage are placed into burlap sacks for discharge. Paper is processed by an incinerator when the ship is beyond 12 NM from shore.

4.3.2 Source reduction techniques. The command re-uses tri-walls, pallets, hazardous material sub-containers, and hard re-usable utensils.

4.4 Hazardous Material (HM)/Hazardous Waste (HW) Management. The HM Minimization Center (HAZMINCEN) onboard is used to manage: 1) maintenance of the HM Information Resource System (HMIRS) and update Material Safety Data Sheets; 2) receive and consolidate all used HM; 3) ensure personnel are properly trained prior to HAZMINCEN assignment; and 4) ensure HM is properly transferred to labeled sub-containers. The Consolidated HM Reutilization and Inventory Management Program (CHRIMP) provided centralized ordering, receipt, stowage, issue and disposal which allowed materials to be transferred from shore HAZMINCEN for reutilization and significantly reduced shipboard HW generation. This program used the Hazardous Inventory Control System (HICS) to track onboard inventory so no unnecessary HM orders were placed. Additionally, the onboard shelf life program tracked material expiration dates to provide a means of inspection for material issue and extensions and to determine necessary reorders. This maximized shipboard HM reutilization and minimized HW generation transfers ashore.

4.5 Protective Measures Assessment Protocol (PMAP). Implementing the PMAP program event-specific protective measures enabled RRN to conduct training events consistent with Navy environmental policies. The planning and execution, for over 50 RRN training exercises, was enhanced by using the PMAP and CD tool to help identify natural resource considerations and controls for endangered species and marine mammals within exercise locations. The protective measures were common shipboard practice, including posting of trained lookouts and ensuring critical habitat awareness. PMAP use has enabled the command to make informed decisions on training evolutions and minimize potential environmental impact.