

Award Narrative

1. Introduction

a. USS THACH (FFG 43) is a Fast Frigate with multi-faceted mission capabilities ranging from escort duties to Under Sea Warfare to Maritime Interdiction Operations. THACH has a crew of 25 Officers and 168 enlisted and is homeported in San Diego, CA. All hands are charged with protection of the environment, with the Environmental Quality Program as a top priority from the Commanding Officer to the deck-plate Sailor.

b. THACH is part of Destroyer Squadron SEVEN, based out of Naval Base San Diego, San Diego, CA.

2. Background

a. The achievement period began on 1 October 2008, as THACH was completing the last two months of a highly successful, six-month deployment to C7F/C5F/C3F. From January to March of 2009, the ship completed an arduous work-up cycle which included a complete, albeit compressed training certification in preparation for the RONALD REAGAN Strike Group (RRSG) SURGE deployment to COMSEVENTHFLT and COMFIFTHFLT AORs. While preparing for deployment, the ship also completed a two month maintenance availability.

b. In May 2009, THACH executed a six-month "Around the World" Surge Deployment that included COMSECONDFLT, COMTHIRDFLT, COMFOURTHFLT, COMFIFTHFLT, COMSIXTHFLT, AND COMSEVENTHFLT. Upon returning to homeport in November 2009, THACH completed a Dry-docking Selected Restricted Availability (DSRA) from November 2009 to June 2010. The maintenance availability totaled \$20 million and was the largest FFG modernization upgrade ever-conducted.

c. During the following six months of the FRTP, THACH executed a seamless certification and work-up cycle in preparation for an independent deployment to COMFOURTHTHFLT AOR.

d. Faced with numerous environmental challenges while performing complex inport and underway operations, THACH successfully fulfilled her mission in full compliance with all environmental regulations, and with no fuel spills of any kind. High-risk evolutions such as replenishment at sea, re-fueling in port, helicopter refueling, and the transfer of oily waste are all examples of routine operations in which THACH has performed superbly.

3. Organization

a. THACH's Commanding Officer is overall responsible for Environmental Quality directives and initiatives while management of specific programs is delegated to the Department Heads. Guidance on Environmental Quality can be found in numerous THACH documents, including the Commanding Officer's Standing Orders, the Ship's Organization and Regulations Manual (SORM), and the Engineering Department Organization and Regulations Manual (EDORM). Every Sailor who checks onboard attends command indoctrination which includes environmental compliance training, followed by a spill and containment drill. THACH's environmental compliance board is chaired by the Executive Officer and meets quarterly.

4. Program Summary

a. THACH is fully compliant with Chapter 22 and Appendix K of OPNAVINST 5090.1C (Environmental Program), and comply by the following environmental guidance, directives, and plans:

- (1) Hazardous Material Control & Management (02 Apr 09)
- (2) Oil Pollution Abatement (28 Oct 09)
- (3) OHS Spill Contingency Plans (12 Mar 08)
- (4) Plastic and Solid Waste Control (31 May 08)

b. HAZMAT transfers are completed and are always disposed of properly. Program managers do not allow waste to be left on the pier or disposed of over the side. The Medical Department separates out infectious waste from non-infectious waste prior to disposal. THACH has had no incidents of oil, oily waste, wastewater, or otherwise environmentally unsound discharge over the side during the 2009-2010 period.

c. The Oil Spill Contingency Plan was last reviewed on 28 August, 2010. The Afloat Environmental Compliance Board last met on 28 August, 2010.

5. Accomplishments

a. Refueling Operations: The crew of THACH prides themselves on the numerous accomplishments achieved regarding the Environmental Quality Program. During the past two years, THACH has completed 25 fueling at-sea (FAS) evolutions and 18 in-port refueling evolutions for receipt of 2,568,254 gallons of F-76 diesel fuel and 247,626 gallons of JP-5 jet fuel. In addition, THACH has qualified to perform Helicopter In-Flight Refueling (HIFR) and completed on-deck refueling of 96 aircraft

for a transfer of 58,221 gallons of JP-5. All FAS and aviation fueling evolutions were performed safely without incident and without spilling a drop.

b. Air Pollution Control: Strict adherence to Engineering Operational Sequencing System, Technical Manuals, EDORM, PMS, and the Clean Air Act is practiced to ensure Gas Turbine and Ship's Service Diesel Generators operate as efficiently as possible while minimizing air pollutants. THACH recognizes that burning fossil fuels produces air pollution; therefore, emphasis in maintaining equipment in peak operational condition to minimize emission levels is a top priority. In the past two years, a thorough Diesel Engine Inspection (DEI) has been performed on all four Ship's Service Diesel Generators (SSDG), which helped identify and correct any discrepancy that may have hindered environmental compliance and operation. THACH's Auxiliaries Division has completed 1,684 maintenance checks and performed a total of 1,944 man hours of maintenance, ensuring the SSDGs operated at peak efficiency. Every 1,000 operating hours, diesel engines are analyzed for efficiency trends, with the data being analyzed to complete required repairs. During THACH's DSRA, she had all four diesel engines replaced with the the new CATEPILLAR Marine Diesels. This ensured the ship kept all generators in peak performance and combustion efficiency, which significantly decreasing air emissions from stack exhaust, while increasing diesel generator operational and fuel efficiency. Meticulous material history records and logs are kept to identify trends that affect efficiency or exhaust levels.

(1) THACH is currently equipped with three Environmental Protection Agency certified Air Conditioning and Refrigeration (AC&R) technicians to operate and maintain two refrigeration and three air conditioning plants. AC&R technicians are properly trained on handling, recovery, and recycling Ozone Depleting Substances (ODS). R-134 freon leak detection equipment is maintained in top-notch condition and utilized to identify the smallest of leaks. THACH ensures air conditioning and refrigerant leakage rates meet the annual performance goals in eliminating refrigerant leakage. Operating and refrigerant usage logs are properly maintained on all air conditioning and refrigeration equipment. All THACH technicians recognize the environment as a priority and take pride in quick repairs to maintain zero leaks.

(2) THACH Sailors performed emergent repairs to maintain three halocarbon monitors at the highest level of readiness to guarantee the prompt detection of R-134A Freon leakage for engineering spaces. This year our technicians discovered and

repaired four leaks and performed 225 man hours of maintenance to ensure our refrigeration units and A/C plants performed at peak levels. In addition, the Thermal Expansion Valves (TXV) and Water Regulating Valves (WRV) for air conditioning and refrigeration systems were rebuilt or replaced, enabling THACH to meet her operational commitments and preventing refrigerant leakage into the atmosphere.

c. Water Pollution Control: THACH's Collection, Holding, and Transfer System (CHT) is comprised of one 3,000-gallon holding tank and one 100-gallon capacity holding tank. While in-port in the United States or overseas, THACH ensures all sewage is diverted to the holding tanks in strict accordance with Engineering Operational Sequencing System (EOSS). During her last deployment, she successfully off-loaded over 20,000 gallons of waste to certified tankers and barges without any spills. Watchstanders are required to monitor the levels of these containers in addition to the ship's holding tanks. Continuous monitoring prevents overflow and provides sufficient time to arrange replacement of off-ship collection containers. Every Sailor in THACH's Repair Division is qualified to operate and align the CHT system and are also properly trained on CHT handling and spill response procedures. THACH Sailors also performed 620 man hours and invested \$80,000 dollars in repairs to NR1 Communitor, NR1 CHT Pump, and the CHT piping systems, ensuring the system was fully operational. The safety of the environment and crew is a top priority onboard THACH.

(1) During transfer of fuel, oil, or waste, overflow watches are always posted and transfer alignment is constantly verified by at least two Sailors. Training is also conducted on hazardous material handling and management by the Supply Department, and all Engineering Department personnel are trained in the appropriate methods of disposing fuel, oil, and other hazardous material. In addition, THACH allows only one division to order hazardous material, thus establishing careful control of all hazardous material being brought onboard the ship. THACH's careful attention to detail and intensive education and qualification procedures have resulted in an incident-free record for 2010.

(2) THACH maintains an aggressive Lube Oil and Fuel Oil Quality Maintenance Program. Meticulous efforts are taken in ensuring fuel oil and lube oil quality and associated systems are maintained in outstanding condition. THACH is completely dedicated to watchstander training, sampling, evaluation, and log review while ensuring essential personnel graduate from the Center of Naval Engineering Propulsion Fuels and Oils School. Additionally, prior to each refueling evolution, the alignment

of fuel systems is verified in triplicate. Fuel and Lube Oil Systems are continuously monitored and evaluated to identify sediment or water contamination utilizing PMS and NSTM 541, 542, and 262. Ship's force ensures purifiers are continuously cleaned and in good working order to aid in purifying lube and fuel oils as required. THACH understands clean lube oil is essential for maintaining proper lubrication and cooling of internal components while clean fuel ensures adequate and proper combustion takes place for Diesels and Gas Turbine Engines. Maintaining both of these minimizes excessive exhaust and plays a vital role in air pollution abatement in conjunction with the Clean Air Act.

(3) The core of THACH's oily waste management program is the training of all Engineering Department personnel in the proper handling and disposal techniques. THACH ensures all Sailors practice strict adherence to the Act to Prevent Pollution from Ships (APPS) and the Clean Water Act. Training encompasses proper personal protective equipment, removal of waste, and disposal locations on the ship. THACH's MKII Oil Spill Containment Kit is frequently inventoried and maintained. Thorough inspections of the waste oil system are conducted prior to any transfer, and only qualified personnel are authorized to operate the onboard equipment to transfer the waste oil ashore.

d. Solid Waste Management and Resource Recovery: THACH has an assertive policy for managing solid waste. Every Sailor is accountable for proper disposal of trash and must segregate their trash while at-sea. The Trash Processing Room is equipped with two Plastic Waste Processors, a Food and Paper Pulper, and one Metal/Glass Shredder. All plastic waste is collected and processed into discs that are retained for shore disposal or transfer to another ship, although THACH can safely store a month's worth of plastic discs. While in-port, THACH takes all necessary steps to limit the amount of packaging and refuse onboard. Tri-walls, pallets, and packaging are stored for reutilization during future off-loads of plastic waste and other items.

e. Onboard THACH all hazardous material is treated with special interest as it is inventoried and issued utilizing the ship's Hazardous Material Inventory and Control Systems Windows (HICSWIN). Major users are allowed to maintain a seven day locker for the satellite storage of hazardous material (HM) used for PMS. These lockers are inventoried weekly and Material Safety Data Sheet (MSDS) binders are maintained by the divisions for the material stowed. Hazardous material is issued out as required/requested. Material that is partially used is returned to the HM locker and HICSWIN is updated to show the return of

reusable material, which is subsequently issued until the container is empty. THACH ensures that only needed hazardous materials are kept onboard, and all materials are used through exhaustion. When requirements are submitted that are not carried onboard, THACH looks toward the Reutilization Center and local ships for availability screening. All materials are considered HM until it is off-loaded so that proper controls and protection can be ensured and tracked by THACH.

f. Prior to any gunnery and SONAR exercises, THACH first uses the Protective Measures Assessment Protocol (PMAP) to ensure all requirements and protections are satisfied. From conducting all hands training on site-TV, and specific bridge watchstander and look out training, THACH ensures that the sensitive waters of all operating areas are protected at all times. THACH maintains awareness of the marine mammal sanctuaries and protected areas that she operates and trains in.

g. Similar to that of PMAP, the Sonar Positional Reporting System (SPORTS) is a must in the breeding grounds for whales within the Hawaiian and Southern California Operating Areas. No ship is more aware of using PMAP and following up with SPORTS to ensure their position. Our active SONAR usage is also appropriately documented to gather further data to be used to better identify marine mammal behaviors and migratory patterns.

h. Environmental Awareness: THACH ensures each crewmember understands their personal responsibilities in regards to from air, water, oil pollution, solid and hazardous material and waste, and our duty to protect the oceans we sail upon. Awareness is raised through onboard indoctrination of new crewmembers and through continued training by supervisors. Every THACH Sailor is responsible for adhering to the highest standards of operational impact on the environment. With these principles on deck, THACH is poised to remain environmentally adept in the twenty-first century.