




**UNITED STATES DEPARTMENT OF COMMERCE**

National Oceanic and Atmospheric Administration  
NOAA Marine and Aviation Operations  
Marine Operations Center  
439 W. York Street  
Norfolk, VA 23510-1114

JUN 29 2010

MEMORANDUM FOR: CDR Ralph R. Rogers, NOAA  
Commanding Officer, NOAA Ship *Nancy Foster*

FROM:   
CDR Karl F. Mangels, NOAA  
Acting Commanding Officer  
NOAA Marine Operations Center—Atlantic

SUBJECT: Cruise Instructions for NF-10-13-DWHLC  
Deepwater Horizon Loop Current Assessment (with restrictions)

Attached are final Cruise Instructions for NF-10-13-DWHLC Monitoring and Assessing Implications of the Deepwater Horizon Oil Spill: Potential Impacts of the Loop Current on Downstream Marine Ecosystems in the Gulf of Mexico and Florida Straits, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of 30 June – 13 July 2010.

The following restrictions are in effect until proper documentation is received:

1. Do not enter the Exclusive Economic Zone of Cuba.
2. Do not enter the Exclusive Economic Zone of Mexico.

Acknowledge receipt of these instructions via e-mail to [OpsMgr.MOA@noaa.gov](mailto:OpsMgr.MOA@noaa.gov) at Marine Operations Center—Atlantic.

Attachment

cc:  
MOA1





**U.S. DEPARTMENT OF COMMERCE**

National Oceanic and Atmospheric Administration  
Atlantic Oceanographic and Meteorological Laboratory  
4301 Rickenbacker Causeway Miami FL 33149

TEL: 305-361-4328

FAX: 305-361-4392

EMAIL: ryan.smith@noaa.gov

**CRUISE INSTRUCTIONS**

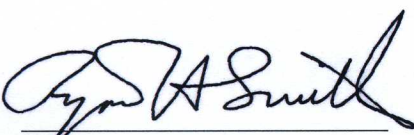
**Date Submitted:** 28 June 2010

**Platform:** NOAA Ship *Nancy Foster*

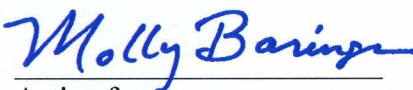
**Cruise Number:** NF-10-13-DWHLC

**Project Title:** Monitoring and Assessing Implications of the Deepwater Horizon Oil Spill: Potential Impacts of the Loop Current on Downstream Marine Ecosystems in the Gulf of Mexico and Florida Straits.


**Cruise Dates:** 30 June 2010 – 13 July 2010

Prepared by:   
Mr. Ryan H. Smith  
Chief Scientist  
NOAA/AOML/PhOD

Dated: 28 June 2010

Approved by:   
Acting for  
Dr. Robert M. Atlas  
Director  
NOAA/AOML

Dated: 28 June 2010

Approved by:   
Captain Michael S. Devany, NOAA  
Commanding Officer  
Marine Operations Center - Atlantic

Dated: 29 June 2010



## **I. OVERVIEW**

As the Deepwater Horizon incident in the northern Gulf of Mexico continues to unfold, it is critically important that scientists mobilize quickly to conduct in situ physical, chemical, and biological observations downstream of the spill area in order to determine how oil, dispersants, and tarballs are spreading through the water column, interacting with the Gulf of Mexico Loop Current system, and potentially threatening the sensitive coastal ecosystems of the Gulf.

Connectivity between coastal regions in the northern Gulf of Mexico and downstream areas such as northern Cuba, South Florida, and the Florida Keys via the Loop Current is well documented. If discharge from the Deepwater Horizon is entrained by the Loop Current, significant quantities of oil could reach these downstream areas relatively quickly (on the order of days to weeks). If this discharge is mostly contained in a Loop Current Eddy, most of the oil will remain in the Gulf of Mexico, with the possibility of reaching the coasts of Texas and/or Mexico.

NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML) is currently serving a suite of daily real- and near-real time products derived from satellite observations, including sea surface temperature, ocean color, sea height, geostrophic currents derived from altimetry, upper ocean heat content, and Lagrangian Coherent Structures from geostrophic currents (<http://www.aoml.noaa.gov/phod/dhos/index.php>). These observations and products provide surface and near-surface estimates of critical parameters. While these multiple remotely-sensed observations and products aid scientists in the assessment of surface and near-surface conditions in the Gulf of Mexico and Florida Straits, managers and scientists involved with the ongoing oil spill response (government, academic, and private) are in need of profile data collected through the full water column to gain a better understanding of how potential petroleum contaminants are spreading throughout the basin (at all depths). A comprehensive assessment of the interactions between the major oceanographic features associated with the Gulf of Mexico and Florida Straits (Loop Current, Loop Current Eddy, Florida Current, frontal eddies, etc.) and these contaminants is needed to determine potential risks for downstream areas. These data are also needed for validation and improvement of 3D circulation models for the region.

### **A. CRUISE PERIOD**

#### **June 30, 2010 through July 13, 2010:**

6/30/2010 - Depart from Miami, FL (begin science operations)

7/13/2010 - Arrive at Pascagoula, MS; or Pensacola, FL

## B. OPERATING AREA

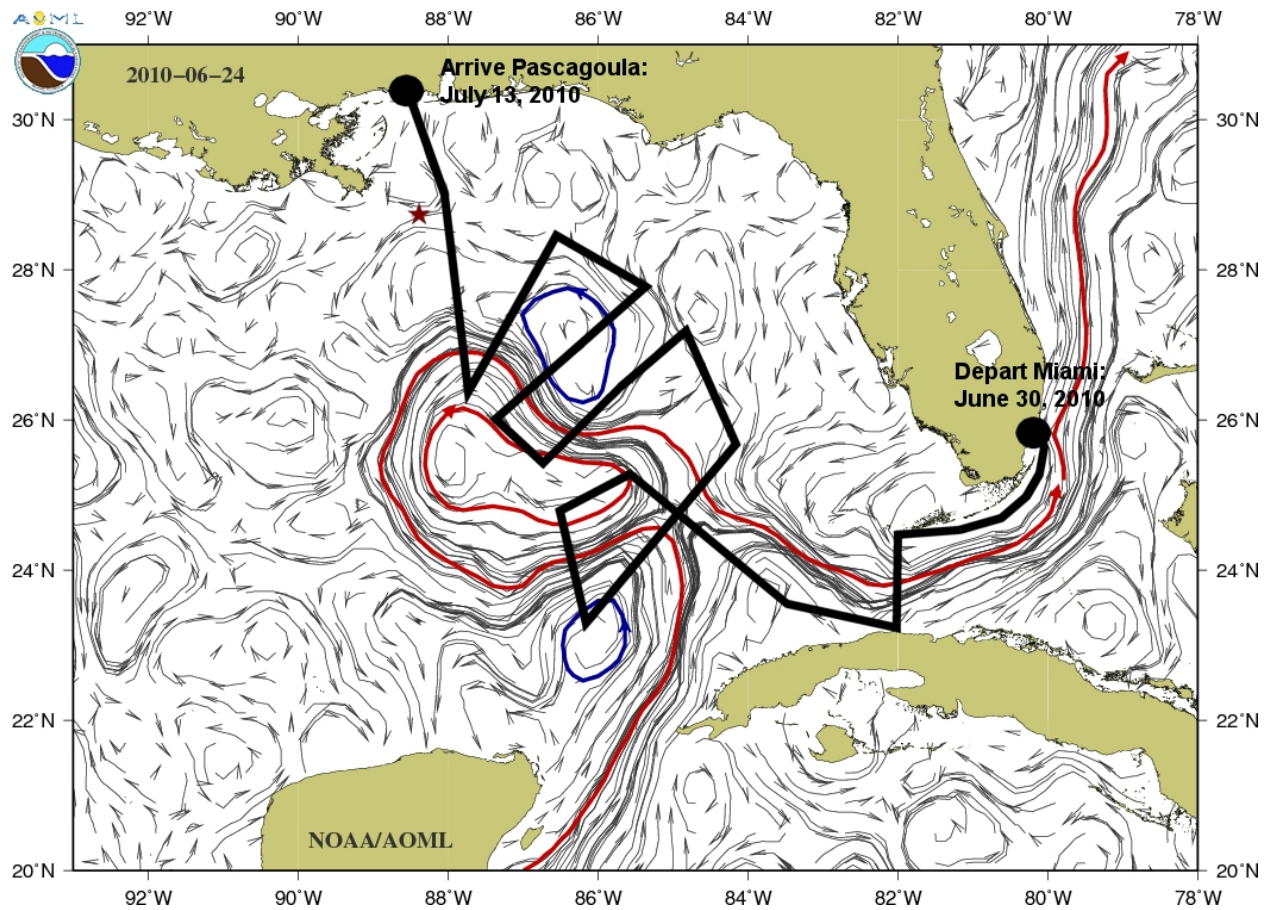


Figure 1. The above chartlet shows the track by which the major circulation features of the Gulf of Mexico and Florida Straits (Loop Current, Loop Current Eddy, frontal eddies, Florida Current, etc.) will be surveyed by the NOAA Ship *Nancy Foster* during NF-10-13. Actual station locations will be determined while at sea following a daily review of the latest remotely-sensed data products. Geostrophic currents, derived from sea surface height measurements, are plotted beneath the cruise track (an AOML altimetry data product).

## C. SUMMARY OF OBJECTIVES

Interdisciplinary oceanographic observations will be obtained and analyzed to assess the ocean dynamics of the Loop Current system over the entire water column including its spatial and temporal variability, and to determine the pathways that the oil plume has taken and may take in the future. We will examine the persistence of oil, dispersants, and tarballs in the water column, sediments, and samples of larval fish, zooplankton, larval invertebrates, and phytoplankton in areas impacted by the spill. We will also collect samples of water for petroleum analysis in

water masses that have a strong fluorescence signal and collect samples for source fingerprinting where tarballs or visible surface sheens are observed. Samples for partners at the University of South Florida and the University of Georgia will be collected for methane and DOM fingerprinting by 3D fluorescence spectroscopy. This project will provide early warning of oil entrainment to the agencies of the four countries (US, Bahamas, Cuba and Mexico) with coastal areas that could be affected by the oil spill.

#### **D. PARTICIPATING INSTITUTIONS**

United States Department of Commerce  
National Oceanic and Atmospheric Administration  
Atlantic Oceanographic and Meteorological Laboratory  
(US DOC NOAA/OAR/AOML)  
4301 Rickenbacker Causeway  
Miami, FL 33149 USA  
TEL: 001 305 361 4450  
FAX: 001 305 361 4392

United States Department of Commerce  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Southeast Fisheries Science Center  
(US DOC NOAA/NMFS/SEFSC)  
75 Virginia Beach Drive  
Miami, FL 33149 USA  
TEL: 001 305 361 4226  
FAX: 001 305 361 4478

United States Department of Commerce  
National Oceanic and Atmospheric Administration  
National Ocean Service  
Office of Response and Restoration  
(US DOC NOAA/NOS/ORR)  
1305 East-West Highway  
Silver Spring, MD 20910 USA  
TEL: 001 301 713 4248  
FAX: 011 301 713 4389

## E. SCIENTIFIC PERSONNEL

<u>Name</u>	<u>Sex</u>	<u>Nationality</u>	<u>Affiliation</u>
Ryan Smith	M	USA	NOAA/OAR/AOML
Shailer Cummings	M	USA	NOAA/OAR/AOML
Kyle Seaton	M	USA	NOAA/OAR/AOML
Pedro Pena	M	USA	NOAA/OAR/AOML
Andrew Stefanick	M	USA	NOAA/OAR/AOML
Jonathan Molina	M	USA	NOAA/OAR/AOML
Laura Bendernagle	F	USA	NOAA/OAR/AOML
Sarah Privoznik	F	USA	NOAA/NMFS/SEFSC
Amanda Walton	F	USA	NOAA/NMFS/SEFSC
Glenn Zapfe	M	USA	NOAA/NMFS/SEFSC
Chris Haney	M	USA	Defenders of Wildlife
David Graves	M	USA	NOAA/NOS/ORR
Michael Hall	M	USA	NOAA/NOS/ORR
TBA	M	USA	TBD
TBA	M	USA	TBD

## **F. ADMINISTRATIVE**

### *1. Points of Contact*

Chief Scientist:

Mr. Ryan Smith  
Atlantic Oceanographic and Meteorological Laboratory  
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Ryan.Smith@noaa.gov

AOML Oil Spill POC #1:

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AOML Oil Spill POC #2:

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Alternate AOML Point of Contact:

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Telephone: 305-361-4544 Facsimile: 305-361-4449  
Hector.Casanova@noaa.gov

Lead SEFSC Collaborator:

Dr. John Lamkin  
Early Life History Laboratory (ELH)  
Southeast Fisheries Science Center - NOAA Fisheries  
75 Virginia Beach Drive, Miami, FL 33149 USA  
Telephone: 305-361-4226 Facsimile: 305-361-4478  
John.Lamkin@noaa.gov

## 2. Diplomatic Clearances

Research clearance has been requested through Wendy Bradfield-Smith at NOAA/NMAO in Norfolk, VA for the following countries:

Cuba            *pending*  
Mexico        *pending*

## 3. Licenses and Permits

Not Applicable.

## **II. OPERATIONS**

### **A. CRUISE PLAN ITINERARY**

06/30/2010	Depart:	Miami, FL (~1000)
07/13/2010	Arrive:	Pascagoula, MS; or Pensacola, FL

#### *NOTE:*

*Small boat operations may be required to embark/disembark Cuban and Mexican scientists and/or observers as required by research clearance documents provided by either country.*

The NOAA Ship *Nancy Foster* (NF) arrived in Miami for loading on June 28, 2010 from its home port of Charleston, SC. Equipment and supplies will be loaded and gear will be configured for use on June 29, 2010. NF will sail from Miami on the morning of June 30, 2010, at which point scientific operations will commence. Following the 14-day survey, the cruise will conclude in either Pascagoula, MS or Pensacola, FL. Depending on Cuban and/or Mexican clearance requirements, the ship may have to embark/disembark foreign scientists/observers at locations still to be determined at some point during the survey.

Underway oceanographic observations will include continuous flow-through measurements of surface water properties (salinity, temperature, chl\_a and cdom fluorometry) and upper ocean current velocity. Tracking currents and water properties at depth will require the use of lowered scientific instrumentation at specific locations. Utilizing lowered acoustic Doppler current profilers (LADCP) in conjunction with lowered conductivity, temperature, depth (CTD) casts will provide full water column profiles of current velocity, temperature, salinity, dissolved oxygen, chl\_a, and cdom fluorometry. Various water samples will be collected from CTD Niskin bottles (fired at multiple depths during each cast) for use in sensor calibration and for petroleum and other chemical and biological analyses. Shipboard ADCP current observations and Expendable Bathythermographs (XBTs) will provide a rapid underway assessment of the



large-scale current field. Surface drifters will be deployed at selected locations along the cruise track to better delineate the large-scale circulation.

Concurrent with the above physical and chemical oceanographic sampling, biological sampling techniques will be utilized to collect zooplankton samples in an effort to assess abundance and diversity of larval fish, eggs, and invertebrates throughout the water column and on the surface. Surface samples will be collected using consistently timed bongo, standard neuston, and Spanish neuston tows. Additional samples will be collected at multiple depths – 100 m, 75 m, 50 m, and 25 m - using state of the art zooplankton collecting equipment, the Multiple Opening and Closing Net Environmental Sampling System (MOCNESS). Additionally, otolith chemistry analysis will be conducted on the larval fish samples to establish a chemical signature baseline. Results will be analyzed with reference to the physical and chemical oceanographic parameters, and mapped according to evolving oil spill impact dynamics. Sampling to evaluate potential impact of the spill on invertebrate larvae and phytoplankton will also be included.

Scientists will coordinate these shipboard operations with ongoing aerial deployments of airborne expendable current (AXCP) and conductivity with depth (AXCTD) probes in the vicinity of the Loop Current and Loop Current Eddy in the Gulf of Mexico (currently underway through AOML and the University of Miami). Scientists at sea will conference daily with a land-based assessment/guidance team at AOML, continuously updating the science plan in response to real- and near real-time observations and hydrodynamic modeling being performed by NOAA and non-NOAA (academic and private) partners. Preliminary data and graphical products, including current oceanographic conditions, model predictions, and remote sensing imagery, will be made available in near-real-time (daily) during the cruise via the AOML oil spill web site along with existing remotely-sensed data products to interested scientists and managers for use in ongoing oil spill response efforts. All of these products will be utilized to target sampling efforts during the cruise. AOML products will be supplemented with additional satellite products including imagery and prediction of oil spill movement from SAR imagery (ROFFS).

## **B. STAGING AND DESTAGING**

All scientific gear will be loaded aboard the NF in Miami, FL on June 29, 2010. All gear will be unloaded from the ship following the conclusion of the survey on July 14, 2010, in either Pascagoula, MS or Pensacola, FL.

## **C. OPERATIONS TO BE CONDUCTED**

1. Approximately 60 CTDO<sub>2</sub>/LADCP profiles (up to full ocean depth profiles).
2. Approximately 40 1-m MOCNESS tows.
3. Approximately 40 bongo tows.
4. Approximately 40 Spanish neuston tows.
5. Approximately 40 standard neuston tows.

6. Approximately 100 XBT deployments.
7. Approximately 25 drifter deployments.
8. Continuous hull-mounted ADCP survey.
9. Continuous flow-through TSG/chl\_a/cdom survey.
10. Continuous bathymetric survey.

### *Station Operations*

*Station operations will utilize of the majority of the main deck. Any small boat stored on the main deck must not interfere with J-Frame (CTDO<sub>2</sub>/LADCP casts, bongo/neuston tows) or A-Frame (1-m MOCNESS tows) operations!*

CTDO<sub>2</sub>/LADCP Operations: CTDO<sub>2</sub> casts will be performed using AOML equipment. These casts will be performed using the ship's Markey winch (spooled with .322 conducting cable) in conjunction with the ship's J-Frame boom and a metered block.

Net / Trawl Operations: Operations will vary, utilizing either bongo, neuston, or 1-m MOCNESS rigs. Trawl type and location will depend on the work area and scientific results yielded during the course of the cruise.. MOCNESS tows will be performed using the ship's newly acquired Almon-Johnson winch (spooled with .322 conducting cable) via the ship's A-Frame boom and a metered block. Bongo and neuston tows will be performed using the ship's DT winch, J-Frame boom and a non-metered block (this block should be mounted aft of the metered CTD block).

***Station locations will be determined from daily analysis of remotely-sensed (satellite) data products. Station coordinates will typically be furnished a section at a time, 24 hours prior to occupation. Station positions for the first section (Key West / Havana) will be furnished during the transit between Miami to Key West on June 30, 2010. A test station will be occupied on the first day of the cruise during this transit.***

### *Underway Operations*

The ship shall continuously collect position (GPS), hull-mounted ADCP, meteorological, thermosalinograph (TSG), chl\_a fluorometer cdom fluorometer (provided by AOML), and bathymetric data while underway. Directional GPS information from the ship's POSMV GPS should be properly interfaced with the ship-s hull mounted ADCP and SCS system.

XBT deployments will be conducted periodically throughout the cruise.

Drifting buoy deployments will be conducted periodically throughout the cruise. 25 satellite-tracked Lagrangian surface drifters will be deployed by hand at predetermined coordinates while the ship is underway.

### *Small Boat Operations*

Small boat operations will be required as needed throughout the cruise.

#### **D. DIVE PLAN**

Not Applicable.

#### **E. APPLICABLE RESTRICTIONS**

None.

### **III. EQUIPMENT**

#### **A. EQUIPMENT AND CAPABILITIES PROVIDED BY THE SHIP** **ITEMS SHOWN IN RED ARE NF-10-13 MISSION CRITICAL!**

The following NF communications devices should be on board, in working order, and available for use during NF-10-13:

- 1) INMARSAT-B and C
- 2) HF SSB/DSC transceiver
- 3) cellular telephone
- 4) Iridium Telephone
- 5) VHF Radios
- 6) handheld NOAA radios for ship-to-launch and deck communications
- 7) **continuous internet access via satellite link**

The following NF navigational devices should be on board, in working order, and available for use during NF-10-13:

- 1) 200 kHz and 50 kHz single beam transducer with Furuno FE-700 echo sounder
- 2) Transas ES2 and ECDIS, software Navi-Sailor 2400
- 3) Transas ES2 for transiting, operations, and video feed from lab
- 4) RADAR: S-band/X-band w/ ARPA
- 5) Dynamic Positioning Displays: forward and aft console
- 6) Furuno Universal AIS FA-100
- 7) gyrocompass: 2 Meridian Surveyors and 9 repeaters
- 8) NAVTEX
- 9) Young Wind Tracker

The following NF scientific gear should be on board, in working order, and available for use during NF-10-13:

- 1) 200 kHz single beam transducer with Knudsen echo sounder for shallow water surveying
- 2) 150 kHz Ocean Surveyor hull-mounted ADCP
- 3) 12 kHz transducer with Knudsen echo sounder for deep water surveying (~5000m depth)
- 4) Kongsburg-Simrad EM 1002 MultiBeam system
- 5) Applanix POS M/V
- 6) SBE 45 MicroTSG
- 7) SBE 21 TSG with fluorometer
- 8) SBE 19 CTD
- 9) SBE 9/11+ CTD and deck unit system configured with a 12-bottle rosette sampler and 12 Niskin bottles. Data acquisition via SeaSave v7 or later version.
- 10) SCS with real-time file access
- 11) Scientific freezer space for samples (-80°C preferred, -45°C will work)
- 12) Headset communication devices (either VHF, NOAA, or telephone) for simultaneous communications between winch operator, dry lab, and bridge

The following NF deck equipment should be on board, in working order, and available for use during NF-10-13:

- 1) A-Frame – for tows off of the fantail
- 2) J-Frame – for net tows and CTD casts off of the port side
- 3) Hydrographic Winch #1 (Markey) – spooled with ~5000 m of .322 conductor cable (wire rope) and configured for use with the ship's J-Frame (winch should be able to pay-out / haul-in cable at 60 meters per minute)
- 4) Hydrographic Winch #2 (Almon-Johnson) – spooled with ~1000 m (or more) of .322 conductor cable (wire rope) and configured for use with the ship's A-Frame
- 5) Hydrographic Winch #3 (DT) spooled with hydrowire, conductor cable (wire rope), or synthetic line (at least 100 m), configured for use with the ship's J-Frame
- 6) Three metered blocks (one spare) for use with the Markey and Almon-Johnson winches
- 7) Two non-metered blocks (one spare) for use with bongo/neuston tow operations
- 8) Air-tuggers, as needed
- 9) Deck cranes, as needed
- 10) Portable deck cleats as needed
- 11) Quick-release 55-gallon drum storage on 01 deck for two drums of ethanol to be used in the preparation of scientific samples.

The following NF small boats should be on board, in working order, and available for use during NF-10-13:

- 1) At least two NF small boats should be aboard and available for use in gear/personnel transfers during the course of the cruise.
- 2) ANY SMALL BOAT STORED ON THE MAIN DECK MUST NOT INTERFERE WITH J-FRAME (CTDO<sub>2</sub>/LADCP CASTS, BONGO TOWS) OR A-FRAME (1-M MOCNESS TOWS) OPERATIONS.

## **B. EQUIPMENT AND CAPABILITIES PROVIDED BY THE SCIENTISTS**

In addition to the suite of oceanographic and meteorological instruments on board the NF, the science party has loaded the following scientific gear on board:

A COMPLETE LIST OF ALL EQUIPMENT AND CAPABILITIES PROVIDED BY THE SCIENTISTS WILL BE FURNISHED TO THE SHIP AT THE TIME OF LOADING ON JUNE 29, 2010. ALL HAZMAT ITEMS WILL BE CLEARLY IDENTIFIED AND PROPERLY STORED ABOARD THE SHIP. ASSOCIATED MSDS WILL BE ADDED TO THE SHIP'S HAZMAT LOG.

## **IV. HAZARDOUS MATERIALS**

### **A. POLICY AND COMPLIANCE**

The NF will operate in full compliance with all environmental compliance requirements imposed by NOAA. All hazardous materials and substances needed to carry out the objectives of the embarked science mission, including ancillary tasks, are the direct responsibility of the embarked designated Chief Scientist, whether or not the Chief Scientist is using them directly. The ship's Environmental Compliance Officer (ECO) will work with the Chief Scientist to ensure that this management policy is properly executed, and that any problems are brought promptly to the attention of the Commanding Officer. Scientific HAZMATs will not be left aboard without a trained spill responder from the science party remaining aboard with them.

The scientific party, under supervision of the Chief Scientist, shall be prepared to respond fully to emergencies involving spills of any mission HAZMAT. This includes providing properly trained personnel for response, as well as the necessary neutralizing chemicals and clean-up materials. Ship's personnel are not first responders and will act in a support role only in the event of a spill.

The Chief Scientist is directly responsible for the handling, both administrative and physical, of all scientific party hazardous wastes. No liquid wastes shall be introduced into the ship's drainage system. No solid waste material shall be placed in the ship's garbage.

The Chief Scientist is responsible for complying with MOCDOC 15, Fleet Environmental Compliance #07, Hazardous Material and Hazardous Waste Management Requirements for Visiting Scientists, released July 2002. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

By Federal regulations and NOAA Marine and Aviation Operations policy, the ship may not sail without a complete inventory of all hazardous materials by name and the anticipated quantity brought aboard, MSDS and appropriate neutralizing agents, buffers, and/or absorbents in amounts adequate to address spills of a size equal to the amount of chemical brought aboard. The amount of hazardous material arriving and leaving the vessel shall be accounted for by the Chief Scientist.

## **B. RADIOACTIVE ISOTOPES**

Not Applicable.

## **C. INVENTORY**

The Chief Scientist will provide the Commanding Officer with an inventory indicating the amount, concentrations, and intended storage area of each hazardous material brought on board, and for which the Chief Scientist is responsible. This inventory shall be updated at time of offload, accounting for the amount of material being removed, as well as the amount consumed in science operations and the amount being removed in the form of waste.

## **D. MSDS**

All hazardous materials require a Material Safety Data Sheet (MSDS). Copies of all MSDSs shall be delivered to the ship at least two weeks prior to sailing. The Chief Scientist shall have copies of each MSDS available when the hazardous materials are loaded aboard. Hazardous material for which the MSDS is not provided will not be loaded aboard.

## **V. ADDITIONAL PROJECTS**

### **A. SUPPLEMENTARY (“PIGGYBACK”) PROJECTS**

None.

### **B. NOAA FLEET ANCILLARY PROJECTS**

Any additional work will be subordinate to the primary project and will be accomplished only with the concurrence of the Commanding Officer and the Chief Scientist.

The following projects will be conducted by ship's personnel in accordance with the general instructions contained in the MOC Directives, and conducted on a not-to-interfere basis with the primary project:

- 1) SEAS Data Collection and Transmission
- 2) Marine Mammal Reporting
- 3) Bathymetric Trackline
- 4) Weather Forecast Monitoring
- 5) Sea Turtle Observations
- 6) Automated Sounding Aerological Program

## **VI. DISPOSITION OF DATA AND REPORTS**

### **A. DATA RESPONSIBILITIES**

The Chief Scientist and Co-Principal Investigators will be responsible for the disposition, feedback on data quality, and archiving of data collected on board the ship for the primary project. They will also be responsible for the dissemination of copies of these data to participants in the cruise and to any other requesters based on the timelines outlined the project's original DOS research clearance request. The ship may assist in copying data and reports insofar as facilities allow.

The Chief Scientist will receive all original data gathered by the ship for the primary project, and this data transfer will be documented on NOAA Form 61-29 "Letter Transmitting Data". The Chief Scientist in turn will furnish the ship a complete inventory listing all data gathered by the scientific party detailing types and quantities of data.

The Commanding Officer is responsible for all data collected for ancillary projects until those data have been transferred to the project's Principal Investigators or their designees. Data transfers will be documented on NOAA Form 61-29. Copies of ancillary project data will be provided to the Chief Scientist when requested.

Either the ship's Survey Technician (ST) or Electronics Technician (ET) will translate the data from the SCS to an ASCII format and provide the data to the science party as required throughout the course of the cruise.

### **B. PRE AND POST CRUISE MEETING**

Pre-Cruise Meeting: Prior to departure, the Chief Scientist will conduct a meeting of the scientific party to train them in sample collection and inform them of cruise objectives. Safety information and other vessel protocols, e.g., meals, watches, etiquette, etc. will be presented by the ship's Operations Officer.

Per OMAO policy, daily safety meetings will be held. The Chief Scientist, ship command and department heads will be in attendance. This meeting will be held at a predetermined time to accommodate watch standers' schedules. The first daily safety meeting will include an Operational Risk Assessment for each type of operation expected during the project. Any safety issues that are noted during the project will be addressed at the daily safety meeting.

Post-Cruise Meeting: Upon completion of the cruise, a meeting will normally be held at 0830 (unless prior alternate arrangements are made) and attended by the ship's officers, the Chief Scientist and members of the scientific party to review the cruise. Concerns regarding safety, efficiency, and suggestions for improvements for future cruises should be discussed. Minutes of the post-cruise meeting will be distributed to all participants by email, and to the Commanding Officer and Chief of Operations, Marine Operations Center.

### **C. SHIP OPERATION EVALUATION REPORT**

Within seven days of the completion of the cruise, a Ship Operation Evaluation form is to be completed by the Chief Scientist. The preferred method of transmittal of this form is via email to [OMAO.Customer.Satisfaction@noaa.gov](mailto:OMAO.Customer.Satisfaction@noaa.gov) . If email is not an option, a hard copy may be forwarded to:

Director, NOAA Marine and Aviation Operations  
NOAA Office of Marine and Aviation Operations  
8403 Colesville Road, Suite 500  
Silver Spring, MD 20910

## **VII. MISCELLANEOUS**

### **A. MEALS AND BERTHING**

Meals and berthing are required for up to 15 scientists. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the cruise, and ending two hours after the termination of the cruise. Since the watch schedule is split between day and night, the night watch may often miss daytime meals and will require adequate food and beverages (for example a variety of sandwich items, cheeses, fruit, milk, juices) during what are not typically meal hours. Special dietary requirements for scientific participants will be made available to the ship's command at least seven days prior to the survey.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Chief Scientist. The Chief Scientist and Commanding Officer will work together on a detailed berthing plan to accommodate the gender mix of the scientific party taking into consideration the current make-up of the ship's complement. The Chief Scientist is responsible



for ensuring the scientific berthing spaces are left in the condition in which they were received; for stripping bedding and linen return; and for the return of any room keys which were issued. The Chief Scientist is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the cruise and at its conclusion prior to departing the ship.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Chief Scientist will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the Chief Scientist to ensure that the entire scientific party has a mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

All persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO's Drug and Alcohol Policy dated May 7, 1999 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

## **B. MEDICAL FORMS AND EMERGENCY CONTACTS**

The NOAA Health Services Questionnaire (NHSQ, Revised: 08/08) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Chief Scientist or the NOAA website at [NOAA HEALTH SERVICES QUESTIONNAIRE](#). The completed form should be sent to the Regional Director of Health Services at Marine Operations Center. The participant can mail, fax, or scan the form into an email using the contact information below. The NHSQ should reach the Health Services Office no later than 4 weeks prior to the cruise to allow time for the participant to obtain and submit additional information that health services might require before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of the NHSQ. Be sure to include proof of tuberculosis (TB) testing, sign and date the form, and indicate the ship or ships the participant will be sailing on. The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

Prior to departure, the Chief Scientist must provide a listing of emergency contacts to the Executive Officer for all members of the scientific party, with the following information: name, address, relationship to member, and telephone number.

## **C. SHIPBOARD SAFETY**

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. Hard hats are required when working

with suspended loads. Work vests are required when working over the side (including CTD and net operations), near open railings, and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

#### **D. COMMUNICATIONS**

The Chief Scientist or designated representative will have access to ship's telecommunications systems on a cost-reimbursable basis. Where possible, it is requested that direct payment (e.g. by credit card) be used as opposed to after-the-fact reimbursement. Ship's systems include:

##### **E-MAIL**

Embarking scientists will be able to access existing email accounts through the ship's satellite internet connection.

##### **OTHER MEANS OF CONTACT**

**NANCY FOSTER (WTER)**

**IN PORT**

Home Port (Charleston, SC):

843-308-0750, 0780 (Voice)

843-308-0201 (Fax)

Cellular:

843-991-6326 (Ship)

843-697-0584 (CO)

843-697-0901 (OOD)

**NANCY FOSTER (WTER)**

**AT SEA**

Inmarsat B:

011-874-336-991-211 (Voice)

011-874-336-991-212 (Data)

011-874-336-991-213 (Telex)

011-874-391-031-069 (HSD)

Iridium:

011-8816-7632-5653

808-434-5653

## **E. INFORMATION TECHNOLOGY (IT) SECURITY**

Any computer that will be hooked into the ship's network must comply with the NMAO Fleet IT Security Policy prior to establishing a direct connection to the NOAA WAN. Requirements include, but are not limited to:

1. Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.
2. Installation of the latest critical operating system security patches.
3. No external public Internet Service Provider (ISP) connections.

Non-NOAA personnel using the ship's computers or connecting their own computers to the ship's network must complete NOAA's IT Security Awareness Course within 3 days of embarking.

## **F. FOREIGN NATIONAL GUESTS**

All foreign national access to the vessel shall be in accordance with [NAO 207-12](#) and [RADM De Bow's March 16, 2006 memo](#). National Marine Fisheries Service personnel will use the [Foreign National Registration System \(FRNS\)](#) to submit requests for access to NOAA facilities and ships. The Departmental Sponsor/NOAA (DSN) is responsible for obtaining clearances and export licenses and for providing escorts required by the NAO. DSNs should consult with their designated NMFS Deemed Exports point of [contact](#) to assist with the process.

The following are basic requirements. Full compliance with [NAO 207-12](#) is required.

*Responsibilities of the Chief Scientist:*

- 1) Provide the Commanding Officer with the e-mail generated by the FRNS granting approval for the foreign national guest's visit. This e-mail will identify the guest's DSN and will serve as evidence that the requirements of [NAO 207-12](#) have been complied with.
- 2) Escorts – The Chief Scientist is responsible to provide escorts to comply with [NAO 207-12](#) Section 5.10, or as required by the vessel's DOC/OSY Regional Security Officer.
- 3) Ensure all non-foreign national members of the scientific party receive the briefing on Espionage Indicators ([NAO 207-12](#) Appendix A) at least annually or as required by the servicing Regional Security Officer.
- 4) Export Control - The NEFSC currently neither possesses nor utilizes technologies that are subject to Export Administration Regulations (EAR).

The Commanding Officer and the Chief Scientist will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.

*Responsibilities of the Commanding Officer:*

- 1) Ensure only those foreign nationals with DOC/OSY clearance are granted access.
- 2) Deny access to OMAO platforms and facilities by foreign nationals from countries controlled for anti-terrorism (AT) reasons and individuals from Cuba or Iran without written NMAO approval and compliance with export and sanction regulations.
- 3) Ensure foreign national access is permitted only if unlicensed deemed export is not likely to occur.
- 4) Ensure receipt from the Chief Scientist or the DSN of the FRNS e-mail granting approval for the foreign national guest's visit.
- 5) Ensure Foreign Port Officials, e.g., Pilots, immigration officials, receive escorted access in accordance with maritime custom to facilitate the vessel's visit to foreign ports.
- 6) Export Control - 8 weeks in advance of the cruise, provide the Chief Scientist with a current inventory of OMAO controlled technology onboard the vessel and a copy of the vessel Technology Access Control Plan (TACP). Also notify the Chief Scientist of any OMAO-sponsored foreign nationals that will be onboard while program equipment is aboard so that the Chief Scientist can take steps to prevent unlicensed export of Program controlled technology. The Commanding Officer and the Chief Scientist will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.
- 7) Ensure all OMAO personnel onboard receive the briefing on Espionage Indicators ([NAO 207-12](#) Appendix A) at least annually or as required by the servicing Regional Security Officer.

*Responsibilities of the Foreign National Sponsor:*

- 1) Export Control - The foreign national's sponsor is responsible for obtaining any required export licenses and complying with any conditions of those licenses prior to the foreign national being provided access to the controlled technology onboard regardless of the technology's ownership.
- 2) The DSN of the foreign national shall assign an on-board Program individual, who will be responsible for the foreign national while on board. The identified individual must be a U.S. citizen, NOAA (or DOC) employee. According to DOC/OSY, this requirement cannot be altered.
- 3) Ensure completion and submission of Appendix C (Certification of Conditions and Responsibilities for a Foreign National Guest) as required by [NAO 207-12](#) Section 5.03.h.