



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

MEMORANDUM FOR: Master Donn Pratt, NOAA
Commanding Officer, NOAA Ship *Gordon Gunter*

FROM:  Captain Anne K. Lynch, NOAA
Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT: Project Instruction for GU-14-04
AMAPPS Marine Mammal Survey

Attached is the final Project Instruction for GU-14-04, AMAPPS Marine Mammal Survey, which is scheduled aboard NOAA Ship *Gordon Gunter* during the period of July 2-31, 2014. Of the 29 DAS scheduled for this project, 29 DAS are funded by a Line Office allocation. This project is estimated to exhibit a Medium Operational Tempo. Acknowledge receipt of these instructions via e-mail to OpsMgr.MOA@noaa.gov at Marine Operations Center-Atlantic.

Attachment

cc:
MOA1



Amendment to GU-14-04

SE Mammal Survey

June 26, 2014

The SE Mammal Survey was scheduled to depart June 1, 2014 to begin the SE Mammal Survey. Due to mechanical issues on GUNTER (rudder), the ship was forced to delay sailing until July 2, 2014. The survey will now be conducted per the following schedule:

 July 2 ³ , 2014	Depart Pascagoula, MS
July 16, 2014	Arrive Key West, FL
July 18, 2014	Depart Key West, FL
July 31, 2014	Arrive Pascagoula, MS

The survey was originally scheduled for 54 DAS. The new schedule is for 29 DAS thus a loss of 25 DAS for the survey.

Anthony Martinez, Field Party Chief

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
3209 Frederic Street
Pascagoula MS 39567

Project Instructions

Date Submitted: 06/27/2014 

Platform: NOAA Ship GORDON GUNTER

Cruise Number: GU-14-04

Project Title: SE Mammal Survey

Cruise Dates: 07/02/2014  - 07/31/2014 

Prepared by: MULLIN.KEITH. Digitally signed by MULLIN.KEITH.D.136585604
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ou=OTHER, cn=MULLIN.KEITH.D.136585604
Date: 2014.06.27 09:04:26 -0500 D.1365856504 **Date:** 06/27/2014 

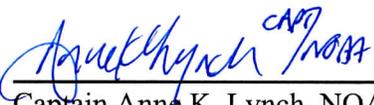
Field Party Chief

Approved by: _____ **Date:** _____ 

Lab Director

Approved by: Theo R. Brainerd Digitally signed by Theo R. Brainerd
DN: cn=Theo R. Brainerd, o=SEFSC,
ou=NOAA Fisheries,
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Date: 2014.06.27 18:05:04 -0400 **Date:** 06/27/2014 

Dr. Bonnie Ponwith
Director, SEFSC

Approved by:  CAPT NOAA **Date:** 7/1/2014 

Captain Anne K. Lynch, NOAA
Commanding Officer
Marine Operations Center - Atlantic

I. Overview

A. Project Period

Transit to Key West, FL - 1 June to 4 June

Leg 1 - 7 Jun to 23 Jun

Leg 2 - 25 Jun to 11 Jul

Leg 3 - 13 Jul to 28 Jul

B. Days at Sea (DAS)

Of the 54 DAS scheduled for this project, 0 DAS are funded by an OMAO allocation, 54 DAS are funded by a Line Office Allocation, 0 DAS are Program Funded, and 0 DAS are Other Agency funded. This project is estimated to exhibit a Medium Operational Tempo.

C. Operating Area: U.S. waters of the southeastern Gulf of Mexico (GOM) (Figure 1).

D. Summary of Objectives:

1. Deploy satellite telemetry tags on suitable specimens of sperm whale and other species from the scientific small boat (*R3*).
2. Collect tissue biopsy samples, detailed photographs, detailed video, fecal samples and close-range acoustic recordings of select marine animal species.
3. Collect visual and passive acoustic data to characterize sperm whale abundance and spatial distribution in the Southeastern GOM.
4. Collect biopsy samples from select cetaceans from the bow of *Gordon Gunter*.
5. Collect acoustic recordings of marine mammal vocalizations for use in species identification.
6. Collect oceanographic and environmental data including hydrographic profiles (CTD and XBT), continuous surface water characteristics (SSCS), and scientific echosounders (EK60) data to quantify acoustic backscatter due to small fish and zooplankton.
7. Deploy a deep water passive acoustic mooring.

E. Participating Institutions

The Southeast Fisheries Science Center (SEFSC) Marine Mammal Program, Bureau of Offshore Energy Management (BOEM).

F. Personnel/Science Party: name, title, gender, affiliation, and nationality

Name (Last, First)	Title	Leg	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Martinez, Anthony	FPC	1,2,3	5 June	31 July	M	SEFSC	US

Laura, Dias	Observer	1,2,3	5 June	31 July	F	Contractor	US Resident
Wicker, Jesse	Observer	1,2,3	5 June	31 July	M	Contractor	US
Baran, Melody	Observer	1,2,3	5 June	30 July	F	Contractor	US
Roden, Carol	Observer	1,2,3	5 June	30 July	F	Contractor	US
Maiello, Mathew	Observer	1	5 June	24 June	M	SEFSC	US
Grace, Mark	Observer	1	5 June	24 Jun	M	SEFSC	US
Salinas, Juan Carlos	Observer	1,2	5 June	12 July	M	Contractor	MX (FPC as sponsor)
Rice, Blakely	Observer	1,2,3	5 June	31 July	F	Volunteer	US
Soldevilla, Melissa	Acoustics	1	5 June	24 June	F	SEFSC	US
Ortega, Joel	Observer	2	24 June	12 July	M	Contractor	US
Barry, Kevin	Observer	3	12 July	28 July	M	SEFSC	US
Sinclair, Carrie	Observer	3	12 July	28 July	F	SEFSC	US
Ninke, Tom	Observer	2,3	24 June	30 July	M	Contractor	US
Ternus, Katrina	Acoustics	2,3	24 June	30 July	F	Contractor	US
Cory Hom_Weaver	Acoustics	1,2,3	5 June	31 July	F	Contractor	US
Kerry Dunleavy	Acoustics	1,2,3	5 June	31 July	F	Contractor	US
Gina Rapucci	Observer	2	24 June	12 July	F	Contractor	US
Sabrina Stevens	Observer	3	12 July	30 July	F	Contractor	US
TBA	Pilot	TBA	TBA	TBA	TBA	TBA	TBA

G. Administrative

1. Points of Contacts:

Field Party Chief

Anthony Martinez
SEFSC, Protected Resources and Biodiversity Division
Miami, FL
Email: Anthony.Martinez@noaa.gov
Phone: 305-323-4305

Principal Investigators

Dr. Lance P. Garrison
SEFSC, Protected Resources and Biodiversity Division
Miami, FL
Email: Lance.Garrison@noaa.gov
Phone: 305-361-4488

Dr. Keith Mullin
SEFSC, Marine Mammal Program
Pascagoula, MS
Email: Keith.D.Mullin@noaa.gov

Phone: 228-549-1632

2. Diplomatic Clearances

None Required.

3. Licenses and Permits

This project will be conducted under marine mammal research permit #14450 issued by the National Marine Fisheries Service on 4 March 2014 to the Southeast Fisheries Science Center (SEFSC), 75 Virginia Beach Drive, Miami, Florida 33149, (hereinafter "Permit Holder"), [Responsible Party: Bonnie Ponwith, Ph.D.], pursuant to the provisions of the Marine Mammal Protection Act of 1972 as amended (MMPA; 16 U.S.C. 1361 *et seq.*); the regulations governing the taking and importing of marine mammals (50 CFR Part 216); the Endangered Species Act of 1973 (ESA; 16 U.S.C.1531 *et seq.*); and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR Parts 222-226). Anthony Martinez is a Co-Investigator under this permit.

II. Operations

The Field Party Chief (FPC) is responsible for ensuring the scientific staff are trained in planned operations and are knowledgeable of project objectives and procedures. The Commanding Officer (CO) is responsible for ensuring all operations adhere to accepted practices and procedures.

A. Project Itinerary:

Date	Location	DAS
DEP: 06/07/14	Key West, FL	17
ARR: 06/23/14	Key West, FL	
DEP: 06/25/14	Key West, FL	17
ARR: 07/11/14	Key West, FL	
DEP: 07/13/14	Key West, FL	16
ARR: 07/28/14	Pascagoula, MS	

Gordon Gunter will depart Key West, FL on the morning of 1 June 2014 to begin the transit to the operational area in the southeastern GOM. Systems testing will occur during this transit period to ensure all is working correctly.

Whenever conditions are favorable during the course of the cruise, a calibration of the EK60 scientific echosounder will be conducted.

Scientific operations will begin on or about 8 June 2014. Visual and passive acoustic survey effort will be conducted while in route to and within the primary operations area (see Figure 1) to characterize the distribution and abundance of sperm whales and Bryde's whales and to localize animals for focal work utilizing R3. The FPC will communicate the next day's survey plan to the

bridge each evening. Depending on realized success in encountering target species in the primary operations area, *Gordon Gunter* may be diverted to one of two secondary areas (Figure 1).

During daylight hours, *Gordon Gunter* will transit at approximately 5-10 kt along bathymetric lines, lines of latitude or longitude or predetermined tracklines to conduct visual and passive acoustic surveys for sperm whales. When sperm whales or other species of interest are encountered, *Gunter* will reduce speed as requested to allow the visual and passive acoustic teams to observe the distribution of sperm whale sub-groups within the localized area, characterize the direction of travel, and conduct visual and acoustic counts of animals. Assuming favorable conditions, *R3* may be deployed for collection of biopsy samples, photographic data, underwater photography/videography, fecal sample collection and to deploy satellite telemetry tags. During deployments of *R3*, both passive acoustic and visual teams on *Gordon Gunter* will observe and assist *R3* in localizing sperm whale groups and/or will locate and track other groups of sperm whales.

XBT casts will be made throughout the survey, primarily at locations where sperm whales are encountered or along oceanographic features of interest. The bridge will be notified prior to the deployment of XBTs over the side. CTD casts to 1000m depth will be conducted at least daily, with a scheduled CTD cast at 1230 each day. The EK60 scientific echosounder will be operational 24h/day using settings determined by the FPC.

B. Staging and De-staging:

Equipment not already aboard from the recent NEFSC projects will be staged in Key West, FL and de-staged in Pascagoula, MS at the end of the cruise. Loading and setup will commence shortly after the arrival of *Gordon Gunter* in Key West. Deck force support will be required during the process of staging and de-staging. Engineering support may be required prior to sailing in order to perform system checks for the acoustics winch on the back deck and to disconnect the system at the end of the cruise prior to unloading. The ship's ET will need to be available prior to departure to facilitate the set up of computers and other systems and at the end of the cruise to provide support and final data copies. Offloading of all scientific equipment will be completed within three working days, not including the return day, after arrival back in Pascagoula. Offloading evolutions will require deck force to operate the ship's crane during regular business hours on loading and off-loading days.

C. Operations to be conducted:

Visual Survey and Sperm Whale Sampling

The visual surveys for cetaceans will be conducted by observers stationed on the flying bridge, and will consist of two observers using the 25x150mm "bigeye" binoculars, 1-2 additional observers searching with handheld binoculars and/or the naked eye, and a data recorder. Data will be recorded using the VisSurvey data acquisition program which will operate on a laptop.

The data collection computer stationed on the flying bridge will be connected to the ship's network via ethernet cable. The computer should be given appropriate permissions on the network to allow it to receive Scientific Computing System (SCS) messages and send messages over the network. Both 120 volt and 12 volt (10 amp minimum) are required on the flying bridge in addition to the network connection. The storage boxes (ss cabinet and fiberglass dock box) on the flying bridge should be empty and available for storing scientific gear. The dry lab, ctd lab, wet lab, chem lab, scientific freezer and flying bridge should be devoid of any non-project related gear or specimens.

When sperm whales are sighted, the ship will reduce speed and maneuver as directed to carefully approach the group. Visual and passive acoustic observations will be used to characterize the distribution and abundance of sperm whale subgroups within the area. When conditions are favorable, the *R3* may be deployed. During small boat operations, visual observers will remain on the flying bridge to assist *R3* in locating and tracking animals and to continue to observe and characterize groups of sperm whales in the area. The passive acoustic team will also remain on watch to assist in the localization of sperm whales.

At any time that we have sperm whales or other fauna of interest, a VTOL sUAS may be sortied for photographic purposes. This facet of the operation is contingent upon NOAA issuing a pending relevant policy allowing for such evolutions and as such may not occur at all during this project.

Survey speed will typically be 5-10 kt, but may vary with sea conditions and other scientific requirements. Visual survey effort may be suspended during periods of high sea states, poor visibility conditions (e.g., rain), or when there is lightning in the immediate area (< 5nm).

In cases where sperm whales or other species of interest are detected visually or acoustically, but it is not possible to deploy *R3*, *Gordon Gunter* may be directed to alter course and speed to allow approaches to the group for the collection of photographic data and acoustic recordings. Biopsies will also be collected from other species of marine mammals that approach the ship and ride the bow.

A day/night capable closed circuit television (CCTV) system will be installed on the bow to monitor dolphins that ride the ship's bow pressure wave. This system will have the capability to be monitored and recorded on both the flying bridge and acoustics lab. Additionally, request this CCTV system should be broadcast over *Gordon Gunter's* internal TV network for easy monitoring anywhere there is a TV located.

Passive Acoustic Monitoring

Acoustic monitoring will be conducted using a towed hydrophone array(s) that will be towed 200-400m behind the vessel at depths of 10-100 m below the surface. More than one array may be deployed at any time. The array(s) will interface with a suite of electronics inside the ship and scientists will monitor the array(s) at all times. An acoustic array may be in use 24 h/day. Signal processing equipment, recording equipment and data collection computers will be stationed in the Dry Lab. A team of operators will rotate through watches to support acoustic monitoring around

the clock. Data collection will be accomplished by a computer connected to the ship's network to allow it to both receive SCS signals and send messages over the network.

A log of the use of all active transducers on the ship should be maintained by the bridge throughout the cruise and be provided to the FPC as a data product at the end of each leg. Please note, operating astern propulsion while an array is in the water, should only occur in cases of extreme emergency as there would be a great likelihood of destroying the array or having it tangle in the ship's screws. During focal studies of sperm whales, the passive acoustic team will communicate with the flying bridge, R3, and the bridge to assist in localizing groups of sperm whales.

Deployment and recovery of the towed arrays will be performed by qualified scientific personnel. Deployment of the array will occur in water deeper than 100m at a vessel speed of 5 kts through the water (TTW). The towed array will be recovered when acoustic operations are secured, prior to CTD stations, in extreme foul weather or when water depth goes shallower than 100m. The towed array will remain deployed during launch and recovery of the R3.

Absolutely no hook & line fishing will be conducted during periods when a towed hydrophone array is deployed. Otherwise, fishing in general should only occur with the approval of the CO and FPC.

Environmental Sampling

Environmental data will be collected from the suite of instruments integrated into the SCS, which will be in operation continuously after leaving port. The SCS system will be managed by the ship's ET and a complete copy of these data be provided to the FPC at the conclusion of each leg. The observer stations on the flying bridge will require both standard and customized SCS sentences over the ship's computer network. These customized sentences have already been set up by SEFSC scientists on a previous cruise and should be sent over the network continuously throughout the survey. The ADCP, Simrad EK60, and continuous-flow thermosalinograph/fluorometer systems will operate 24 h/day. Scientific echosounder settings will be determined by the FPC. The data from these systems will be recorded directly to the individual systems hard drive and backed up to the ship's network servers throughout the survey. The science party will then copy this data to portable hard disks at the conclusion of each leg. XBTs will be deployed overboard, primarily in the presence of sperm whales. The bridge will be notified prior to deployments of XBTs. At least one CTD cast (maximum depth 1000m) will be conducted daily with the scheduled cast at 1230 each day, operations allowing.

At least once during the survey, the SimRad EK60 will need to be calibrated. This operation involves suspending a metal sphere beneath the transducers. The sphere is attached to spectra line suspended from down-rigger reels attached at 3 predetermined points on the vessel framing. The calibration operation will take place when there are both calm seas and limited wind and current. *Gordon Gunter* will essentially sit dead in the water (engines all-stop) for a period of 8-10 hrs during the calibration period although there may be requests made by the calibration team to make heading changes during this time. We will request that the MSD discharge be secured

during this period of time. This operation will ideally be conducted during the first half of the cruise

Biopsy Sampling

A variety of biopsy rifles, crossbows, and various dart heads will be used for collecting tissue samples from *R3* or *Gordon Gunter's* bow. A fiberglass (or similar non-corrosive material) storage box (dock box) of adequate size will be mounted on the foredeck in order to provide a weather resistant storage space on the bow for biopsy and attendant biopsy equipment. This will allow safe yet rapid access to biopsy equipment by biopsy personnel that have the appropriate training and experience and have been designated as such by the FPC. During biopsy collection from *Gordon Gunter's* bow, the vessel may be asked to turn/accelerate/decelerate to maintain contact with a targeted group of cetaceans. These communications will be relayed to the bridge by the flying bridge or biopsy personnel on the bow.

Biopsy tissue samples will be used for genetic analysis, and contaminant analysis. Genetic samples will be stored in small vials of 20% DMSO at room temperature or in a refrigerator. Samples for stable isotopes must be stored at -20° C and those for contaminants must be stored at -80° C both shortly after collection and during the duration of the cruise. A liquid nitrogen storage tank will be carried on board *Gordon Gunter* to recharge a portable container for use aboard *R3* for sample storage while away from *Gordon Gunter*. The small -80° C freezer stationed in the ship's lab and the -20° C chest freezer in the wet lab will be used for sample storage.

Scientific freezers are meant only for the storage of scientific samples. Any other items to be placed in these freezers will have to be approved by the FPC.

Small-boat Operations

Scientific small boat operations are a critical component to the success of this mission. Prior to departure of leg 1, the FPC will provide a list of qualified Small Boat Operators (SBO) along with their small boat credentials. Request the Command then issue a certification letter to those SBO's who are qualified to operate a small boat at sea from *Gordon Gunter*. No SBO will be allowed to operate a small boat from the ship without the approval and certification from the CO. Small boat operations may be required at any time during daylight hours. The FPC will communicate the need to launch the scientific small boat to the bridge at least 20 min prior to the intended launch. Prior to launching the small boat, a safety brief will be conducted with at least the following personnel present: the CO and/or his designee, the Chief Bosun, the Operator In Charge (OIC), and the FPC to discuss the operations of the day. A debrief may be held with the same personnel at the end of the day to discuss the day's operations. Fueling of the small boats with gasoline will be the ship's responsibility and will be carried out as requested or needed for the following day's operations.

The timing and location of small boat deployments will be variable and will depend upon weather conditions, the presence of cetaceans in the area, and other operational constraints. Generally, the scientific small boat will operate in the vicinity of cetaceans for several hours and may remain

deployed for up to the safe working limits as defined by STCW regulations. *Gordon Gunter* may continue to engage in other facets of the mission or be tasked to support *R3*'s efforts. *R3* may operate some distance away from *Gordon Gunter* (mission dependent) but will remain in contact via VHF radio, satellite telephone, SPOT satellite messenger and an AIS transceiver system onboard *R3*. All embarked personnel will adhere to the NOAA Small Boat Program policy as applicable.

Launch and recovery of the *R3* should occur while underway, running with largest sea/swell and at a speed of 4 to 6 kt TTW.

D. Dive Plan

All dives are to be conducted in accordance with the requirements and regulations of the NOAA Diving Program (<http://www.ndc.noaa.gov/dr.html>) and require the approval of the ship's Commanding Officer.

No SCUBA operations are planned for this project. However, free diving may be conducted to obtain underwater imaging and sample collection.

E. Applicable Restrictions

Conditions which preclude normal operations:

Weather conditions: Weather may curtail certain operations such as UAS flights and small boat deployments. Weather may also curtail visual effort on the flying bridge and in extreme cases, curtail the use of our towed hydrophone arrays.

Equipment failure: The most vital piece of gear for which we have no easily available replacement during the cruise is the scientific small boat. However, the *R3* is in very good material condition and well maintained. It will be freshly serviced prior to departure to minimize any down time for maintenance.

Safety concerns: Fatigue is our most likely safety concern. All personnel will be monitored for apparent fatigue and are expected to be honest in self-evaluating their fatigue levels. If needed, we will declare a safety stand down from operations to allow for rest and recovery.

III. Equipment

A. Equipment and Capabilities provided by the ship (itemized)

1. Deck mounting plates for 'Bigeye' pedestals on flying bridge and bridge wings.
2. Mounts for pedestal chairs on flying bridge.
3. 115v AC and 12v DC power to the flying bridge and bow (for CCTV system)
4. Weather-resistant workstation on the flying bridge
5. Fiberglass 'dock box' on flying bridge

6. F1/F2 capable VHF radios in all lab spaces and three additional Motorola handhelds for scientific use.
7. Flying bridge and bridge wing canopies
8. *R3* boat cradle and safe deployment & retrieval capability for same.
9. Gasoline for *R3* and fuel storage tank (250 gallon minimum)
10. Fiberglass 'dock box' on bow for biopsy equipment
11. Fluoro-thermosalinograph flow-through system
12. XBT launch system and software installed and working in dry lab/acoustics
13. Standard SCS configuration with custom SCS sentences
14. Network connections (2 minimum) to flying bridge for survey computers with link to SCS
15. SCS slave monitor on flying bridge
16. Dry lab, wet lab and chem lab spaces clear and clean for scientific equipment
17. RDI Ocean Surveyor ADCP & equipment
18. Scientific Echosounder (EK60) operational at 18 kHz, 38 kHz, 120 kHz, and 200 kHz frequencies
19. Three networked computers in dry-lab for acoustic data collection, XBT data acquisition, and sighting data-entry support
20. -80°C Freezer (Marine mammal program unit installed on *Gunter*)
21. -20°C chest freezer clean and clear in wet lab
22. Power connections for passive acoustic array winch on fantail

B. Equipment and Capabilities provided by the scientists (itemized)

1. 25x150 'Bigeye' binoculars (3)
2. Adjustable bigeye stands (3)
3. Pedestal chairs
4. GPS receivers and antennas
5. Handheld VHF monitors
6. Mounted VHF radio
7. Laptop computers for visuals and acoustics
8. Camera and video equipment
9. Biopsy collection gear
10. Satellite tags and delivery equipment
11. 7m scientific small boat (*R3*)
12. XBTs (12 boxes)
13. Acoustic recording equipment
14. DMSO (2L)
15. Ethanol (5L)
16. Triton-X (1L)
17. Towed hydrophone array (multiple)
18. Computers and equipment required to monitor and record array signals
19. Winch for deployment/recovery of towed hydrophone arrays

IV. Hazardous Materials

A. Policy and Compliance

The Field Party Chief is responsible for complying with FEC 07 Hazardous Materials and Hazardous Waste Management Requirements for Visiting Scientific Parties (or the OMAO procedure that supersedes it). 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 quantity, MSDS, appropriate spill cleanup materials (neutralizing agents, buffers, or absorbents) in amounts adequate to address spills of a size equal to the amount of chemical brought aboard, and chemical safety and spill response procedures. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

Per OMAO procedure, the scientific party will include with their project instructions and provide to the CO of the respective ship 30 days before departure:

- List of chemicals by name with anticipated quantity
- List of spill response materials, including neutralizing agents, buffers, and absorbents
- Chemical safety and spill response procedures, such as excerpts of the program’s Chemical Hygiene Plan or SOPs relevant for shipboard laboratories
- For bulk quantities of chemicals in excess of 50 gallons total or in containers larger than 10 gallons each, notify ship’s Operations Officer regarding quantity, packaging and chemical to verify safe stowage is available as soon as chemical quantities are known.

Upon embarkation and prior to loading hazardous materials aboard the vessel, the scientific party will provide to the CO or their designee:

- An inventory list showing actual amount of hazardous material brought aboard
- An MSDS for each material
- Confirmation that neutralizing agents and spill equipment were brought aboard sufficient to contain and cleanup all of the hazardous material brought aboard by the program
- Confirmation that chemical safety and spill response procedures were brought aboard

Upon departure from the ship, scientific parties will provide the CO or their designee an inventory showing that all chemicals were removed from the vessel. The CO’s designee will maintain a log to track scientific party hazardous materials. MSDS will be made available to the ship’s complement, in compliance with Hazard Communication Laws.

Scientific parties are expected to manage and respond to spills of scientific hazardous materials. Overboard discharge of hazardous materials is not permitted aboard NOAA ships.

B. Inventory

Common Name of Material	Qty	Notes	Trained Individual	Spill control
Ethanol	2 x 1 gallon		See below	See below
Triton X (1%)	1 x 5 L (?)		See below	See below

Common Name of Material	Qty	Notes	Trained Individual	Spill control
DMSO	200 x 5mL		See below	See below

C. Chemical safety and spill response procedures

1. Precaution – all personnel handling chemicals will wear the appropriate PPE. All personnel are trained in handling chemicals.
2. Prevention – all chemicals will be secured before the survey departs. All personnel will be aware of the location of all chemicals. A MSDS for all chemicals brought aboard will be given to the ship before sailing.
3. Response – If a spill occurs scientists will immediately leave the area and alert the bridge. Scientists will defer to the ship’s spill plan for cleanup.

D. Radioactive Materials

No radioactive materials are planned for this project.

E. Inventory (itemized) of Radioactive Materials

Not applicable.

V. Additional Projects

A. Supplementary (“Piggyback”) Projects

On the transit down to Key West, we will request the ship deploy a deep water passive acoustic mooring in the vicinity of 29° N and 77° W. On the final leg of the cruise, we will again deploy a passive acoustic mooring in the vicinity of the Desoto Canyon. Additional details forthcoming.

B. NOAA Fleet Ancillary Projects

No NOAA Fleet Ancillary Projects are planned.

VI. Disposition of Data and Reports

Disposition of data gathered aboard NOAA ships will conform to NAO 216-101 *Ocean Data Acquisitions* and NAO 212-15 *Management of Environmental Data and Information*. To guide the implementation of these NAOs, NOAA’s Environmental Data Management Committee (EDMC) provides the *NOAA Data Documentation Procedural Directive* (data documentation) and *NOAA Data Management Planning Procedural Directive* (preparation of Data Management

Plans). OMAO is developing procedures and allocating resources to manage OMAO data and Programs are encouraged to do the same for their Project data.

A. Data Classifications: *Under Development*

- a. OMAO Data
- b. Program Data

B. Responsibilities: *Under Development*

VII. Meetings, Vessel Familiarization, and Project Evaluations

A. Pre-Project Meeting: The Field Party Chief and Commanding Officer will conduct a meeting of pertinent members of the scientific party and ship's crew to discuss required equipment, planned operations, concerns, and establish mitigation strategies for all concerns. This meeting shall be conducted before the beginning of the project with sufficient time to allow for preparation of the ship and project personnel. The ship's Operations Officer usually is delegated to assist the Field Party Chief in arranging this meeting.

B. Vessel Familiarization Meeting: The Commanding Officer is responsible for ensuring scientific personnel are familiarized with applicable sections of the standing orders and vessel protocols, e.g., meals, watches, etiquette, drills, etc. A vessel familiarization meeting shall be conducted in the first 24 hours of the project's start and is normally presented by the ship's Operations Officer.

C. Post-Project Meeting: The Commanding Officer is responsible for conducting a meeting no earlier than 24 hrs before or no later than 7 days after the completion of a project to discuss the overall success and short comings of the project. Concerns regarding safety, efficiency, and suggestions for future improvements shall be discussed and mitigations for future projects will be documented for future use. This meeting shall be attended by the ship's officers, applicable crew, vessel coordinator, Field Party Chief, and members of the scientific party and is normally arranged by the Operations Officer and Field Party Chief.

D. Project Evaluation Report

Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the Chief Scientist. The form is available at <http://www.oma.noaa.gov/fleeteval.html> and provides a "Submit" button at the end of the form. Submitted form data is deposited into a spreadsheet used by OMAO management to analyze the information. Though the complete form is not shared with the ships', specific concerns and praises are followed up on while not divulging the identity of the evaluator.

VIII. Miscellaneous

A. Meals and Berthing

The ship will provide meals for the scientists listed above. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the project, and ending two hours after the termination of the project. 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 project.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Field Party Chief. The Field Party Chief 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 Field Party Chief 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 Field Party Chief is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the project and at its conclusion prior to departing the ship. The Commanding Officer is responsible to ensure that all scientific berthing and laboratory spaces are fully clean, uncluttered and ready for occupation by the oncoming scientific party prior to their arrival.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Field Party Chief will ensure that all non NOAA or non-Federal scientists aboard also have proper orders. It is the responsibility of the Field Party Chief 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 17, 2000 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: 02 JAN 2012) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Field Party Chief or the NOAA website <http://www.corporateservices.noaa.gov/~noaaforms/eforms/nf57-10-01.pdf>. The completed form should be sent to the Regional Director of Health Services at Marine Operations Center. The participant can mail, fax, or scan and send via secure e-mail the form using the contact information below; participants should take precautions to protect their Personally Identifiable Information (PII) and medical information. The NHSQ should reach the

Health Services Office no later than 4 weeks prior to the project 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.

Contact information:

Regional Director of Health Services
Marine Operations Center – Atlantic
439 W. York Street
Norfolk, VA 23510
Telephone 757-441-6320
Fax 757-441-3760
E-mail MOA.Health.Services@noaa.gov

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

C. Shipboard Safety

Hard hats are required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

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. At the discretion of the ship's CO, safety shoes (i.e. steel or composite toe protection) may be required to participate in any work dealing with suspended loads, including CTD deployment and recovery. The ship does not provide safety-toed shoes/boots. The ship's Operations Officer should be consulted by the Field Party Chief to ensure members of the scientific party report aboard with the proper attire.

D. Communications

A progress report on operations prepared by the Field Party Chief may be relayed to the program office. Sometimes it is necessary for the Field Party Chief to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the Field Party Chief. Special radio voice communications requirements should be listed in the project instructions. The ship's primary means of communication with the Marine Operations Center is via e-mail and the Very Small Aperture Terminal (VSAT) link. Standard VSAT bandwidth at 128kbs is shared by all vessel staff and the science team at no charge. Increased bandwidth in 30 day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required and it must be arranged at least 30 days in advance.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the *OMAO Fleet IT Security Policy* 1.1 (November 4, 2005) 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.

Completion of the above requirements prior to boarding the ship is required.

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 Access to OMAO Facilities and Platforms

All foreign national access to the vessel shall be in accordance with NAO 207-12 and RADM De Bow's March 16, 2006 memo (<http://deemedexports.noaa.gov>). National Marine Fisheries Service personnel will use the Foreign National Registration System (FNRS) 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 Line Office Deemed Export point of contact to assist with the process.

Foreign National access must be sought not only for access to the ship involved in the project but also for any Federal Facility access (NOAA Marine Operations Centers, NOAA port offices, USCG Bases) that foreign nationals might have to traverse to gain access to and from the ship. The following are basic requirements.

Full compliance with NAO 207-12 is required.

Responsibilities of the Field Party Chief:

1. Provide the Commanding Officer with the e-mail generated by the Servicing Security Office granting approval for the foreign national guest's visit. (For NMFS-sponsored guests, this e-mail will be transmitted by FNRS.) 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 Field Party Chief is responsible for providing 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 Security Office.
4. Export Control - Ensure that approved controls are in place for any technologies that are subject to Export Administration Regulations (EAR).

The Commanding Officer and the Field Party Chief 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 approval from the Director of the Office of Marine and Aviation Operations 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 Field Party Chief or the DSN of the FNRS or Servicing Security Office 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 project, provide the Field Party Chief 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 Field Party Chief of any OMAO-sponsored foreign nationals that will be onboard while program equipment is aboard so that the Field Party Chief can take steps to prevent unlicensed export of Program controlled technology. The Commanding Officer and the Field Party Chief 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 Security Office.

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 and a 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

VIII. Appendix I

Figure 1. Primary and secondary operating areas for GU-14-04

