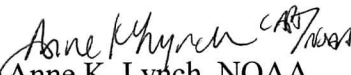




UNITED STATES DEPARTMENT OF COMMERCE

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

MEMORANDUM FOR: Lieutenant Commander Nicholas Chrobak, NOAA
Commanding Officer, NOAA Ship *Nancy Foster*

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

SUBJECT: Project Instruction for NF-14-02
Savannah Harbor Expansion Project (SHEP)

Attached is the final Project Instruction for NF-14-02, Savannah Harbor Expansion Project (SHEP) Savannah ODMDS Pre-Disposal Effects Study, which is scheduled aboard NOAA Ship *Nancy Foster* during the period of 12 April to 17 April, 2014. Of the 6 DAS scheduled for this project, 6 days are funded by EPA HQ through an Interagency Agreement with NOAA. 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





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

FINAL Project Instructions

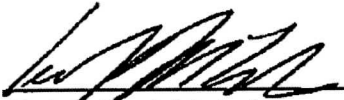
Date Submitted: March 14, 2014

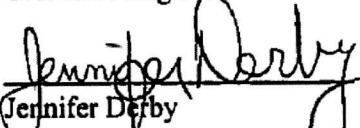
Platform: NOAA Ship *Nancy Foster*

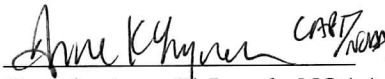
Project Number: NF-14-02 (OMAO)

Project Title: Savannah Harbor Expansion Project (SHEP) Savannah ODMDS Pre-Disposal Effects Study

Project Dates: April 12, 2014 to April 17, 2014

Prepared by:  Dated: 3/14/14
Christopher J. McArthur
Chief Scientist
U.S. EPA Region 4

Approved by:  Dated: 3/14/14
Jennifer Derby
Chief, Coastal and Ocean Protection Section

Approved by:  ^{CAPT/NOAA} Dated: 3/18/14
Captain Anne K. Lynch, NOAA
Commanding Officer
Marine Operations Center - Atlantic

I. Overview

A. Brief Summary and Project Period

Pursuant to the Marine Protection, Research, and Sanctuaries Act, the U.S. Environmental Protection Agency is responsible for the management and monitoring of Ocean Dredged Material Disposal Sites (ODMDSs). The Savannah ODMDS is managed by EPA Region 4 in cooperation with the U.S. Army Corps of Engineers. In August 1987 the site was designated as an approved dumping site. The ODMDS has received an annual average of approximately 1 million cubic yards of dredge material from the Savannah Harbor Navigation Project (1976-2012). A newly proposed project, the Savannah Harbor Expansion Project (SHEP) will widen, deepen, and extend the entrance channel, resulting in an estimated 10 to 11 million cubic yards of material to be placed in the Savannah ODMDS. The recently updated Site Management and Monitoring Plan (SMMP) calls for post disposal monitoring by Sediment Profile Imaging (SPI) for projects over 1 million cy. The purpose of the pre-SHEP construction survey is to comply with the requirements of the SMMP and 40CFR§228.13 to monitor changes at the disposal site as a result of dredged material disposal. Changes can best be identified if a baseline is established prior to placement of the proposed SHEP material. Baseline results will be analyzed and compared to post-construction surveys to be performed after the construction of the SHEP. Comparison results will be used to ascertain movement of material beyond the boundaries of the ODMDS.

The objective of this survey is to conduct pre-SHEP construction SPI and multibeam bathymetry survey as a baseline, consistent with the requirement of the Site Management and Monitoring Plan (SMMP). A post project survey will be conducted following completion of SHEP which is expected in three to four years. Final study results will be used to confirm results of a USACE conducted capacity study to determine the long-term viability of the disposal site for disposal of dredged material from the Savannah Harbor Navigation Project. Results will also be shared and coordinated with a team consisting of the U.S. Army Corps of Engineers, NOAA National Marine Fisheries Service and the State of Georgia to make decisions regarding future management of the ODMDS.

B. Days at Sea (DAS)

All 6 Days At Sea (DAS) scheduled for this project are program funded by EPA HQ through an Interagency Agreement with NOAA.

C. Operating Area (include optional map/figure showing op area)

The operating area includes the Savannah ODMDS. The Savannah ODMDS is located approximately 3.7 nmi east of the coastline of Georgia and 0.25 nmi south of the navigation channel. The site encompasses an area of 4.26 square nmi (approximately 2.0 by 2.1 nmi). Corner coordinates in NAD83 are 31°55.896'N, 80°44.323'W; 31°57.9297'N, 80°46.790'W; 31°57.930'N, 80°44.323'W; & 31°55.896'N, 80°46.790'W. Water depths surrounding the ODMDS vary between approximately 28 and 42 feet MLW. The site can be found on NOAA Chart 11505.

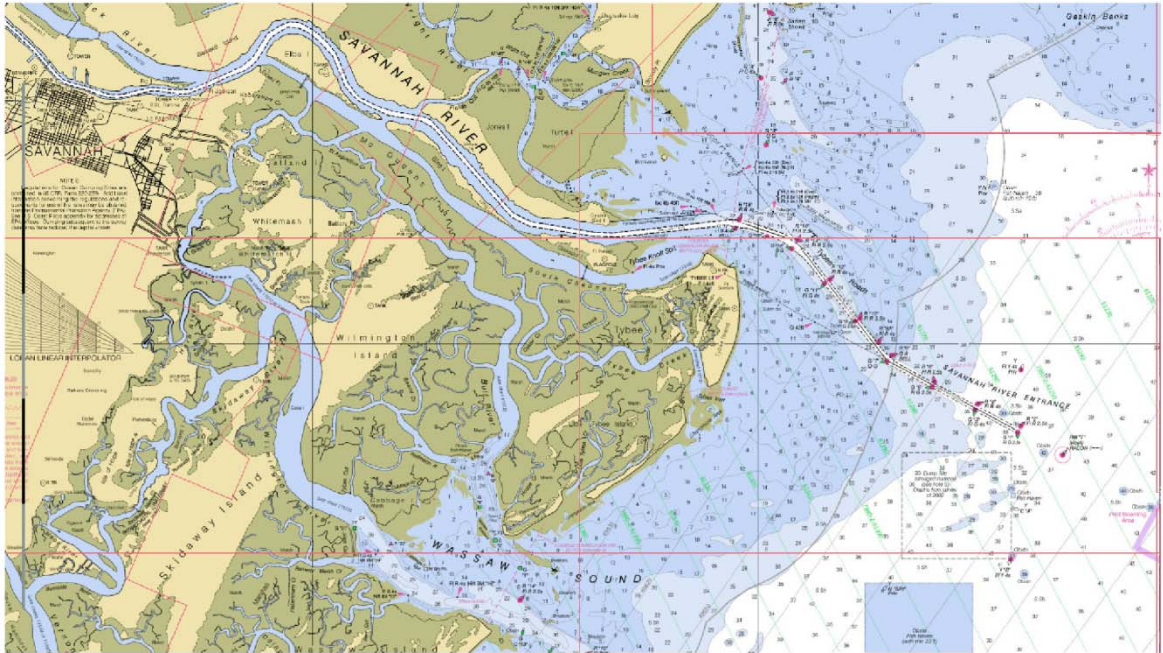


Figure 1: Location Map

D. Summary of Objectives

The survey's objective is to map and characterize the pre SHEP conditions at the Savannah ODMDS including sediment characteristics and bathymetry.

E. Participating Institutions

NOAA/EPA

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

Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Blackburn, Steve	Life Scientist	4/14/14	4/18/14	M	EPA	USA
Boas, Jasper	SPI Technician	4/14/14	4/18/14	M	NewFields	USA
Derby, Jennifer	Supervisory Life Scientist	4/14/14	4/18/14	F	EPA	USA
Kendall, Drew	Life Scientist	4/14/14	4/18/14	M	EPA	USA
McArthur, Christopher	Chief Scientist, PI	4/14/14	4/18/14	M	EPA	USA

G. Administrative

Survey Chief Scientist/ Principal Investigator: Christopher J. McArthur
Organization: U.S. EPA Region 4, Water Protection Division
Organization Address: 61 Forsyth, S.W., Atlanta, GA 30306
Organization Telephone No.: (404) 562-9391; personal cell (404) 909-0347
FAX No.: (404) 562-9343
Email: Mcarthur.Christopher@epa.gov

Alternate Contact: Jennifer Derby
Organization: U.S. EPA Region 4, Water Protection Division
Organization Address: 61 Forsyth, S.W., Atlanta, GA 30306
Organization Telephone No.: (404) 562-9391; personal cell (404) 290-9793
FAX No.: (404) 562-9343
Email: derby.jennifer@epa.gov

USACE Dock Contact:
 Mr. Cone Bostwick
 USACE Savannah District
 Engineers Depot
 Office: 912-652-5354

NOAA Ship Nancy Foster
 LT Colin Kliewer, Operations Officer
 Ship's Cell: 843-991-6326
 Iridium: 808-434-5653
 Email: colin.kliewer@noaa.gov

2. Diplomatic Clearances: N/A
3. Licenses and Permits: N/A

II. Operations

The Chief Scientist is responsible for ensuring the scientific staff are trained in planned operations and are knowledgeable of project objectives and priorities. The Commanding Officer is responsible for ensuring all operations conform to the ship's accepted practices and procedures.

A. Project Itinerary:

Date/Time	Activity
4/12/14	<i>Nancy Foster</i> Departs Charleston, SC
4/14/14: 1300-1500hr	Touch and Go at USACE Dock in Savannah: Transfer Equipment and Personnel to <i>Nancy Foster</i> .
4/14/14: 1500-1730hr	Transit to Survey Area, Savannah ODMDS Welcome Aboard/Safety Briefings/Pre-Project Meeting
4/14-15/14: 1730-0800hr	Multibeam Operations at Savannah ODMDS
4/15/14: 0800-1700hr	SPI Operations at the Savannah ODMDS
4/15-16/14: 1700-0800	Multibeam Operations at Savannah ODMDS
4/16/14: 0800hr-1700hr	SPI Operations at the Savannah ODMDS
4/16-17/14: 1700-0800	Multibeam Operations at Savannah ODMDS
4/17/14: 0800hr-1200hr	SPI Operations or Multibeam at the Savannah ODMDS
4/17/14: 1130hr – 1430hr	Transit to Savannah
4/17/14: 1430hr-1530hr	Touch and Go at USACE Dock in Savannah: Transfer Equipment from <i>Nancy Foster</i> .
4/17/14: 1530hr – 1630	Relocate to Savannah Waterfront; Survey team requests to stay on board until morning of the 18 th .

B. Staging and Destaging:

Staging will occur in Savannah, GA at the USACE dock. The survey team will arrive on 4/14/14 and meet the *Nancy Foster* for a touch-and-go at the USACE dock. A crane will be required to load the SPI camera (~1,000 lbs). The survey will demobilize on 4/17/14 in Savannah, GA. Some survey team members may remain on board until the morning of 4/18/14 if needed depending on travel requirements.

C. Operations to be Conducted:

Sediment Profile Camera-Savannah ODMDS

Up to 44 stations will be sampled. Sample station locations are provided in Appendix A. SPI sampling will occur during a 9 hour shift every day.

Method Description: The SPI images will be acquired using a sediment-profile camera system (Ocean Imaging Systems, North Falmouth, MA). The SPI camera consists of a wedge-shaped prism with a Plexiglas faceplate; light is provided by an internal strobe. The back of the prism has a mirror mounted at a 45-degree angle to reflect the profile of the sediment-water interface

toward the camera, which is mounted horizontally on the top of the prism. The prism is filled with distilled water, through which the photographs are obtained. Because the object (sediment) to be photographed is directly against the clear window (faceplate) comprising the front of the prism, turbidity of the ambient seawater is not a limiting factor.

To collect SPI data, the survey vessel will be piloted to each target sampling location. Once within a pre-determined distance of the target location, the SPI camera will be deployed. For the present survey, 50 m will be established as the initial goal, but the EPA Chief Scientist in consultation with the Commanding Officer (CO) will have the flexibility to change this as necessary or desirable depending on the conditions actually encountered in the field.

For deployment of the SPI camera system, it is first attached to the survey vessel's hydrowire. The camera prism is mounted on an assembly that can be moved up and down by producing tension or slack on the winch wire. As the camera is lowered through the water, tension on the wire keeps the prism in the "up" position. Once the camera frame contacts the bottom, slack on the wire allows the prism to vertically descend into the seafloor.

The rate at which the optical prism penetrates into the sediments is controlled by a passive hydraulic piston. This allows the optical prism to descend at approximately 6 cm per second and minimizes disturbance to the sediment column. As the SPI prism penetrates into the seafloor, a magnetic switch is triggered, and a photograph of the sediment column is taken 15 seconds from the time of switch contact. This time delay allows for optimal penetration of the prism into the sediment.

As the camera is raised off the bottom, a wiper blade automatically cleans any sediment off of the prism faceplate. The digital camera is automatically ready to take another photograph, the strobes are recharged, and the camera can be lowered for another replicate image. Three replicates will be taken at each station. The instrument will be raised slightly off the bottom between replicates and will be retrieved and brought on deck between stations.

When the camera is brought to the surface, the frame count is verified and the camera prism penetration is estimated from a penetration indicator that measures the distance the prism fell relative to the camera base. If penetration is minimal, weight packs can be loaded to give the assembly increased penetration. If penetration is too great, adjustable stops (which control the distance the prism descends) can be lowered, and "mud" doors can be attached to each side of the frame to increase the bearing surface.

At the beginning of the survey, the times on the SPI and plan-view digital cameras will be synchronized with the time on the EPA Region 4's navigation system. Each replicate SPI and plan-view image then can be identified by matching the "time stamp" recorded upon creation on each digital image file with the corresponding time and position recorded in the navigation system and/or in the written logbook. The EPA Watch Chief or his/her designee will record a position fix in the navigation system for each of the three replicate camera drops at each SPI sampling station. As a back-up for the position fixes recorded electronically by the navigation system, the written sample log will be kept by the watch chief. Information recorded in the SPI field logbook includes:

At each sampling station:

- Time of each camera drop
- Latitude and Longitude of each replicate
- Replicate ID
- Frame Count
- Water Depth

- Penetration
- Weight

EPA will establish a GPS antenna on the vessel near the location of the camera deployment. At the end of each field day, the digital image files on the hard drive of the EPA laptop computer are copied to removable storage media (external hard drive) to provide a “working” electronic back-up. Navigation files from EPA’s navigation system will also be backed up every 6 hours.

Multibeam Sonar

Multibeam sonar data will be collected overnight following the NOAA Field Procedures Manual. The site varies from 25-42 feet deep. A line spacing of 30 meters is expected. Vessel speed is expected to range from 6.5 to 7.5 kts. If sea conditions permit, survey lines should be run east/west beginning in the southern portion of the survey area. The southern portion has the greatest priority. It is not expected that the entire site can be surveyed within the time available. As much of the ODMDS will be surveyed as time allows. Coordinates for the multibeam survey are provided below:

Corner	Latitude	Longitude
NW	31°57.011’N	80°46.885’W
NE	31°57.011’N	80°44.228’W
SE	31°55.815’N	80°44.228’W
SW	31°55.815’N	80°46.885’W

Sound velocity profile (SVP) casts will be performed at the beginning of data collection and about every four hours during data collection. Crosslines will be conducted daily. Data will be corrected to mean lower low water using tidal data from the Fort Pulaski tide station (#8670870).

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.

Dives are not planned for this project.

E. Applicable Restrictions

- SPI operations can be undertaken under a wider array of sea conditions. Operations should be suspended in the case of severe weather such as lightning. High seas can cause the camera to trigger prematurely and can make the camera dangerous to deploy and/or recover. Images will be reviewed to determine if seas conditions are not conducive to quality data. Operations should be suspended if the CO and/or Chief Scientist determines conditions are unsafe.
- The SPI system contains numerous electronics that can fail. The operations will be suspended if the camera malfunctions. A SPI technician will be on board to troubleshoot instrument failures.

III. Equipment

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

Equipment	Activity
Main Deck Crane	Loading/Unloading SPI Camera (816lbs)
A-Frame or J-Frame	SPI Camera Deployment
Winch and wire capable of deploying SPI camera in depths up to 42 feet	SPI Camera Deployment
Shallow water multibeam echo sounder: Reson 7125 System (400 kHz and 200 kHz, 250m max)	Savannah ODMDS Bathymetry
HYPACK data acquisition and navigation software	Savannah ODMDS Bathymetry
Dynamic Positioning System	May be required for SPI deployment dependent on sea conditions.

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

Equipment	Activity
SPI Camera and Frame	Sediment Profile Images
GPS and antennae	Sediment Profile Images Positioning
Field Laptop (HYPACK data acquisition and navigation software; SonarWiz Multibeam)	SPI Camera Position Recording and data analysis
DI Water, Isopropyl alcohol	SPI instrument preparation
SPI Laptop and USB cables	SPI photo download
SPI Spare Parts / Cables	Instrument Maintenance and Repair

IV. Hazardous Materials

A. Policy and Compliance

The Chief Scientist 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

Hazardous material is limited to a small amount of isopropyl alcohol for cleaning of the SPI faceplate.

C. Chemical safety and spill response procedures

- Small Spill: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
- Large Spill: Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material.
- Storage: Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
- Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Will only be used outdoors. Ensure that eyewash stations and safety showers are proximal to the work-station location.

D. Radioactive Materials

No Radioactive Isotopes are planned for this project.

V. Additional Projects

A. Supplementary (“Piggyback”) Projects

No Supplementary Projects are planned.

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: Because of the large quantity of multibeam data collected by NOAA Ship *Nancy Foster*, and to ease the data burden on the program managers, the ship will coordinate archival of all multibeam data collected on this project. The ship survey department, under the direction of the Operations Officer, will ensure the multibeam data is archived at the National Geophysical Data Center within one year. This archival will be conducted in consultation with the Principal Investigator(s) to ensure there is no unintentional release of sensitive data.
- B. Responsibilities: *Under Development*

VII. Meetings, Vessel Familiarization, and Project Evaluations

- A. Pre-Project Meeting: The Chief Scientist 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 Chief Scientist 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 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 Commanding and Operations Officers, the Chief Scientist, and other members of the scientific party or wardroom that the Command deems necessary; this meeting is normally arranged by the Operations Officer and Chief Scientist.
- 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.

The Customer Satisfaction Survey is one of the primary methods OMAO and Marine Operations (MO) utilize to improve ship customer service. Information submitted through the form is automatically input into a spreadsheet accessible to OMAO and MO management for use in preparing quarterly briefings.

Marine Operations Centers (MOC) address concerns and praise with the applicable ship. Following the quarterly briefings the data are briefed to the Deputy Director of OMAO.

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 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 project 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 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 Chief Scientist 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 Chief Scientist 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 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 Chief Scientist to ensure members of the scientific party report aboard with the proper attire.

D. Communications

A progress report on operations prepared by the Chief Scientist may be relayed to the program office. Sometimes it is necessary for the Chief Scientist to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the Chief Scientist. 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 vessels 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

1. Foreign National access to the NOAA ship or Federal Facilities is not required for this project.

VIII. Appendices

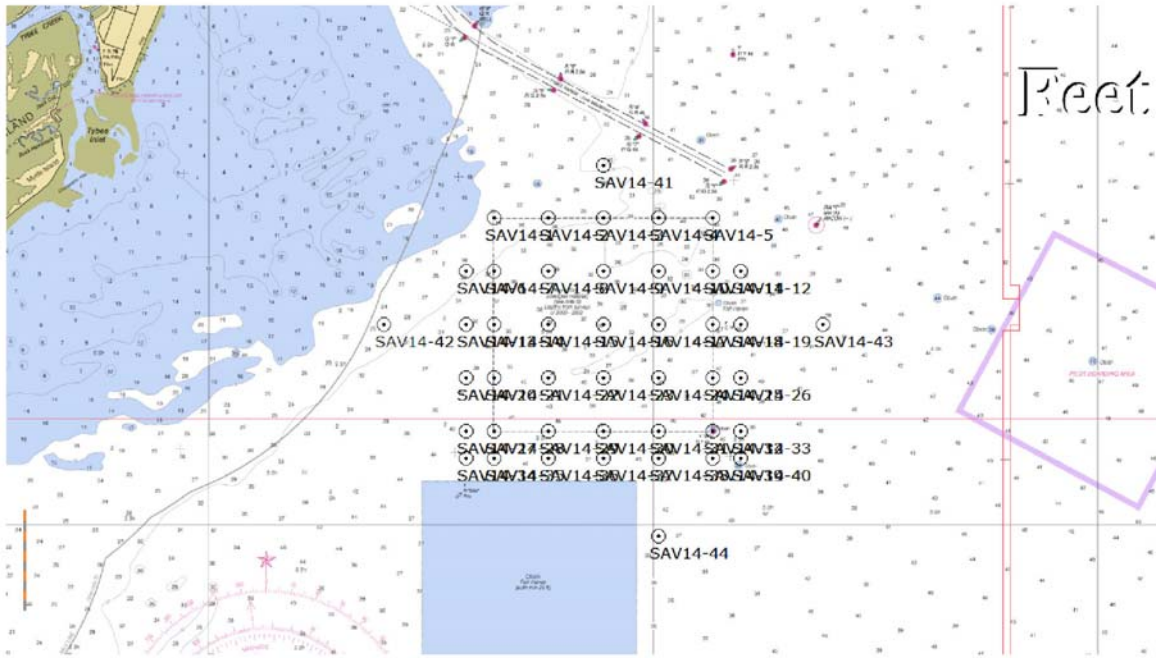
1. Station/Waypoint List (coordinates in Latitude, Longitude: degree-minutes)

APPENDIX 1

SAVANNAH ODMDS SPI STATIONS

Name	Priority	Latitude	Longitude
SAV14-1	1	31 57.930	80 46.790
SAV14-2	2	31 57.930	80 46.173
SAV14-3	1	31 57.930	80 45.557
SAV14-4	2	31 57.930	80 44.940
SAV14-5	1	31 57.930	80 44.323
SAV14-6	4	31 57.422	80 47.099
SAV14-7	2	31 57.422	80 46.790
SAV14-8	5	31 57.422	80 46.173
SAV14-9	5	31 57.422	80 45.557
SAV14-10	5	31 57.422	80 44.940
SAV14-11	2	31 57.422	80 44.323
SAV14-12	4	31 57.422	80 44.015
SAV14-13	4	31 56.913	80 47.099
SAV14-14	1	31 56.913	80 46.790
SAV14-15	5	31 56.913	80 46.173
SAV14-16	1	31 56.913	80 45.557
SAV14-17	5	31 56.913	80 44.940
SAV14-18	1	31 56.913	80 44.323
SAV14-19	4	31 56.913	80 44.015
SAV14-20	4	31 56.405	80 47.099
SAV14-21	2	31 56.405	80 46.790

Name	Priority	Latitude	Longitude
SAV14-22	5	31 56.405	80 46.173
SAV14-23	5	31 56.405	80 45.557
SAV14-24	5	31 56.405	80 44.940
SAV14-25	2	31 56.405	80 44.323
SAV14-26	4	31 56.405	80 44.015
SAV14-27	4	31 55.896	80 47.099
SAV14-28	1	31 55.896	80 46.790
SAV14-29	2	31 55.896	80 46.173
SAV14-30	1	31 55.896	80 45.557
SAV14-31	2	31 55.896	80 44.940
SAV14-32	1	31 55.896	80 44.323
SAV14-33	4	31 55.896	80 44.015
SAV14-34	3	31 55.642	80 47.099
SAV14-35	3	31 55.642	80 46.790
SAV14-36	3	31 55.642	80 46.173
SAV14-37	3	31 55.642	80 45.557
SAV14-38	3	31 55.642	80 44.940
SAV14-39	3	31 55.642	80 44.323
SAV14-40	3	31 55.642	80 44.015
SAV14-41	1	31 58.438	80 45.557
SAV14-42	1	31 56.913	80 48.023
SAV14-43	1	31 56.913	80 43.089
SAV14-44	1	31 54.897	80 44.940



Savannah SPI Stations