

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: Commander Lawrence Krepp, NOAA Commanding Officer, NOAA Ship Thomas Jefferson

FROM:

Captain Anita L. Lopez, NOAA Commanding Officer, NOAA Marine Operations Center-Atlantic

SUBJECT:

Project Instruction for TJ-13-01 Southern Chesapeake Bay, OPR-E350-TJ-13

Attached is the final Project Instruction for TJ-13-01, OPR-E350-TJ-13, which is scheduled aboard NOAA Ship *Thomas Jefferson* during the period of 11 March – 12 March, 2013. Acknowledge receipt of these instructions via e-mail to **OpsMgr.MOA@noaa.gov** at Marine Operations Center-Atlantic.

Attachment

cc: MOA1





UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration NATIONAL OCEAN SERVICE Office of Coast Survey Silver Spring, Maryland 20910-3282

Project Instructions

MAR 0 8 2013

Date Submitted: February 22, 2013 NOAA Ship Thomas Jefferson **Platform: Project Number:** TJ-13-01 **Project Title:** OPR-E350-TJ-13 Southern Chesapeake Bay **Project Dates:** March 11, 2013 to March 12, 2013 Digitally signed by Marc S. Moser, LCDR/NOAA Dated: 2/22/2013 Date: 2013.02.22 15:31:17 Approved by: -05'00' Lieutenant Commander Marc S. Moser, NOAA Chief, Operations Branch Hydrographic Surveys Division Jeffrey Ferguson 2013.02.25 09:32:26 8th Approved by: -05'00' Dated: Jeffrey Ferguson Chief, Hydrographic Surveys Division Office of Coast Survey Dated: Smar 13 Approved by: Captain Anita Lopez, NOAA **Commanding Officer** Marine Operations Center - Atlantic



I. Overview

A. Brief Summary and Project Period

This project is scheduled to begin on or about March 11, 2013 and end on March 12, 2013. This project is being conducted in support of NOAA's Office of Coast Survey to provide contemporary hydrographic data in order to update the nautical charting products and reduce the survey backlog within the area.

B. Service Level Agreements

Of the 2 DAS scheduled for this project, 0 DAS are funded by the program and 2 DAS are funded by OMAO. This project is estimated to exhibit a High Operational Tempo.

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

The project area is located in the Southern Chesapeake Bay. A map of this area can be found with the detailed project instructions appended to these instructions.

D. Summary of Objectives

To support safe navigation though the acquisition and processing of hydrographic survey data for updating nautical charts and by the identification and dissemination of dangers to navigation as identified during the course of survey operations.

E. Participating Institutions

N/A

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

N/A

- G. Administrative
 - 1. 1. Points of Contacts:

Chief Scientist:

CDR Lawrence Krepp, NOAA Commanding Officer, NOAA Ship *Thomas Jefferson* 439 West York Street Norfolk, VA 23510-1114 (757)-647-0187 <u>CO.Thomas.Jefferson@noaa.gov</u>

Project Coordinator:

Mark Lathrop Physical Scientist, Operations Branch Hydrographic Surveys Division 1315 East West Highway, #6747 Silver Spring, MD 20910 (301)-713-2700 x113 <u>Mark.T.Lathrop@noaa.gov</u>

Principle Investigator:

LCDR Marc S Moser, NOAA Chief, Operations Branch Hydrographic Surveys Division 1315 East West Highway, 6854 Silver Spring, MD 20910 (301)-713-2702 x112 <u>Marc S. Moser@noaa.gov</u>

2. Diplomatic Clearances

N/A

3. Licenses and Permits

N/A

II. Operations

A. Project Itinerary

Itinerary will be based upon ship's schedule and executed under the direction of the Commanding Officers. Every effort shall be made by the Commanding Officer to maximize the operational efficiency of assigned projects.

B. Staging and Destaging

N/A

- C. Operations to be Conducted
 - 1. Underway Operations

Hydrographic survey operations per the appended project instructions using two survey launches up to 10 hr/day for data acquisition and project field support.

2. Station Operations

As per attached project instructions.

D. Dive Plan

N/A

E. Applicable Restrictions

Conditions which preclude normal operations:

Survey Department and Junior Officers at less than 70% capacity.

Data quality compromised due to rough weather.

Equipment vital to ship or survey operations nonfunctional.

III. Equipment

- A. Equipment and Capabilities Provided by the Ship (itemized)
 - 1. Two fully outfitted and operational survey launches to support shallow and midwater multibeam sonar survey operations.
 - 2. Ship fully outfitted with hydrographic survey equipment to support mid and deep water multibeam sonar survey operations.
 - 3. Personnel to staff and operate the ship's survey equipment for 24 hr/day operations and a minimum of 2 survey launches and equipment for up to 10 hr per day concurrently, at the discretion of the command, to ensure most efficient survey operations.
 - 4. A fully staffed survey department to efficiently manage the project's data processing requirements.
 - 5. Fully operational small boat to support shore station installation, maintenance, and removal.
- B. Equipment and Capabilities Provided by the Scientists (itemized)

Hydrographic Surveys Division shall provide Physical Scientists for hydrographic data acquisition, processing, training, and data quality assurance support during project survey operations. Additionally, shore based technical support shall be provided for survey systems and data acquisition and processing software.

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 the anticipated quantity brought aboard, MSDS and appropriate neutralizing agents, buffers, or absorbents in amounts adequate to address spills of a size equal to the amount of chemical brought aboard, and a chemical hygiene plan. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

Per FEC 07, the scientific party will include with their project instructions and provide to the CO of the respective ship 60 to 90 days before departure:

- A list of hazardous materials by name and anticipated quantity
- Include a chemical spill plan the addresses all of the chemicals the program is bringing aboard. This shall include:
 - Procedures on how the spilled chemicals will be contained and cleaned up.
 - A complete inventory (including volumes/amounts) of the chemical spill supplies and equipment brought aboard by the program. This must be sufficient to clean and neutralize <u>all</u> of the chemicals brought aboard by the program.
 - A list of the trained personnel that will be accompanying the project and the training they've completed.

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.

Upon departure from the ship, scientific parties will provide the CO or their designee an inventory of hazardous material indicating all materials have been used or 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 scientific chemicals is not permitted during projects aboard NOAA ships.

B. Radioactive Isotopes

The Chief Scientist is responsible for complying with OMAO 0701-10 Radioactive Material aboard NOAA Ships. Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

At least three months in advance of a domestic project and eight months in advance of a foreign project start date the shall submit required documentation to MOC-CO, including:

- 1. NOAA Form 57-07-02, Request to Use Radioactive Material aboard a NOAA Ship
- 2. Draft Project Instructions
- 3. Nuclear Regulatory Commission (NRC) Materials License (NRC Form 374) or a state license for each state the ship will operate in with RAM on board the ship.
- 4. Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, or Offshore Waters (NRC Form 241), if only state license(s) are submitted).
- 5. MSDS
- 6. Experiment or usage protocols, including spill cleanup procedures.

Scientific parties will follow responsibilities as outlined in the procedure, including requirements for storage and use, routine wipe tests, signage, and material disposal as outline in OMAO 0701-10.

All radioisotope work will be conducted by NRC or State licensed investigators only, and copies of these licenses shall be provided per OMAO 0701-10 at least three months prior to the start date of domestic projects and eight months in advance of foreign project start dates.

C. Inventory (itemized) of Radioactive Materials

N/A

V. Additional Projects

A. Supplementary ("Piggyback") Projects

N/A

B. NOAA Fleet Ancillary Projects

N/A

VI. Disposition of Data and Reports

A. Data Responsibilities

Command will submit survey data and reports as specified in the attached project instructions.

B. Pre and Post Project 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 project objectives. Some vessel protocols, e.g., meals, watches, etiquette, etc. will be presented by the ship's Operations Officer.

Post-Project Meeting: Upon completion of the project, 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 project. Concerns regarding safety, efficiency, and suggestions for improvements for future projects should be discussed. Minutes of the post-project 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 project, 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

<u>omao.customer.satisfaction@noaa.gov</u>. 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

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 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 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 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: 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 <u>http://www.corporateservices.noaa.gov/~noaaforms/eforms/nf57-10-01.pdf</u>. 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 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 <u>MOA.Health.Services@noaa.gov</u>

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

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. Steel-toed shoes are required to participate in any work dealing with suspended loads, including CTD deployments and recovery. The ship does not provide steel-toed boots. Hard hats are also 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.

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 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 *NMAO 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 these 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 (<u>http://deemedexports.noaa.gov</u>). 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 Ensure that approved controls are in place for any 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 project, 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

Appendices

1. Primary Project Instructions: OPR-E350-TJ-13, Southern Chesapeake Bay, VA

Hydrographic Survey Project Instructions

Project Name:	Southern Chesapeake Bay
Project Number:	OPR-E350-TJ-13
Assigned Field Unit:	NOAA Ship Thomas Jefferson
Assigned Processing Branch:	Atlantic Hydrographic Branch
Signed Date:	02/22/2013
Project Instructions Version:	Final
Planned Acquisition Time:	Start Date: 03/2013 End Date: 03/2013
Delivery Dates:	120 days from completion of data acquisition.

Purpose and Location:

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charting products. The project will cover approximately 9 square nautical miles and address NHSP critical area.

Supporting Documents:

Hydrography shall consist of Navigable Area Surveys in accordance with the following support documents. Data from surveys is intended to supersede all prior survey data in the common area.

NOS Hydrographic Surveys Specifications and Deliverables Manual (HSSD), April 2012

NOS Field Procedures Manual for Hydrographic Surveying (FPM), April 2012

Hydrographic Survey Technical Directive (HTD): HTD 2012-1 CARIS 7.1

Hydrographic Survey Technical Directive (HTD): HTD 2012-2 Config Mgmt

Hydrographic Survey Technical Directive (HTD): HTD-2011-3 XML Reports

PERSONNEL SAFETY AND DATA QUALITY SHALL ALWAYS BE EMPHASIZED OVER DATA QUANTITY! THE HYDROGRAPHER SHALL NEVER SUBJECT PERSONNEL OR BOATS TO UNDUE RISKS AND HAZARDS.

Registry Details:							
<i>General Locality:</i> Chesapeake Bay							
Registry Number	Priority	Sublocality	State or Territory	Scale	Estimated SNM	Instructions	
H12422	1	Approaches to Mattawoman Creek	Virginia	20000	9		

Coverage & Limits:				
Inshore Limit: There is no inshore limit defined for this survey.				
Coverage Type: Object Detection Instructions:				
Coverage Water Depth	Coverage Required			
All waters in survey area	200% SSS with concurrent Set Line Spacing SBES or MBES with Backscatter, or Object Detection MBES with Backscatter			

Assigned Tasks

Acknowledgement:

Acknowledge receipt of these instructions and submit any comments or questions via email to Mark Lathrop at mark.t.lathrop@noaa.gov.

Aids to Navigation (ATONs):

There are no ATONs specifically assigned for this project. Any ATONs located within the survey area should be verified so that they serve their intended purpose in accordance with section 7.2 of the HSSD.

Feature Investigations:

There are no AWOIS or Maritime Boundary requirements for this project.

Bottom Samples:

Obtain bottom samples in accordance with section 7.1 of the HSSD in areas designated by the feature object class springs(SPRING) in the Project Reference File (PRF). The field unit should review the recommended bottom sample locations with the survey data acquired. Contact HSD Operations Branch to discuss modifying the bottom sample plan if the data suggest more appropriate locations for the bottom samples to better differentiate varying bottom characteristics within the survey area when compared to the sample plan provided. This may increase or decrease the sample density but should closely maintain the same numbers of samples per survey as originally assigned.

Chart Comparison:

Use only the latest editions of the largest scale NOS charts covering the project area. These charts are listed below and will be included with project data from Operations Branch. Compare in accordance with section 4.5 of the FPM and section 8.1.4, D.1 of the HSSD. Resolve any discrepancies in the field and explain them in the Descriptive Report.

Affected Raster Charts									
Chart Number	Scale	Ec Nu	dition Imber	Edition	Date	LNM	Date		NM Date
12224	40000		25	25 04/2011 12/18/2012				12/22/2012	
12226	40000		18	07/20	7/2009 12/18/2012			12/22/2012	
Affected ENCs									
ENC Name	ame Scale Edition Ap				Jpdate plication Date	Issue D	ate	Preliminary	
US5VA14M	4000)	22		12	/20/2012	12/20/20)12	NO
US5VA10M	4000)	2	20	12	/20/2012	12/20/20)12	NO

Coast Pilot:

Review and make recommendations for changes to the Coast Pilot excerpts provided with project data. Submit the revised Coast Pilot section or a report stating no changes are recommended, via email to Coast.Pilot@noaa.gov with a copy to the project planner and the assigned Processing Branch. The report should be submitted as soon as possible following field work for the project. NOAA field units should refer to sections 3.5.7 and 5.2.2.2.5 of the FPM for more information.

Dangers to Navigation (DTONs):

Generate DTON reports in accordance with the HSSD, section 8.1.3. DTON reports should be sent to ocs.ndb@noaa.gov. It is of paramount importance that DTONs be reported as soon as possible.

Junctions:							
Junction with data from the surveys listed below. Refer to sections 2.2.2.6 and 4.5.2 of the FPM.							
Registry Number	Scale	Year	Platform	Relative Location			
H11529	10000	2006	NOAA Ship <i>Rude</i>	W			
H11530	10000	2007	NOAA Ship <i>Rude</i>	N			
H12421	20000	2012	NOAA Ship Thomas Jefferson	S			

Progress Reports:

Email monthly progress reports in accordance with section 5.2.2.2.1 of the FPM to progress.sketches@noaa.gov with a copy to the chief of the assigned Processing Branch. The submittal is due within 5 days after the end of each month.

Survey Outlines:

Generate a survey outline in accordance with the HSSD, section 8.1.2. Survey outlines should be sent to survey.outlines@noaa.gov and shall also be included with the final survey deliverables in Separates II of the Descriptive Report (see Section 8.1.4 for further guidance).

Horizontal control shall meet requirements in Section 3 of the HSSD.					
DGPS					
Location	Frequency	Owner/Agency			
Driver, VA	289kilohertz	USCG			
	t requirements in Se Do Location Driver, VA	t requirements in Section 3 of the HSSD. DGPS Location Frequency Driver, VA 289kilohertz			

Vertical Control Requirements:					
TCARI Comply with the requirements from CO-OPS which are included with the project data from the Operations Branch. Submit surveys with final approved water levels applied. Contact the Operations Branch if this causes the survey to miss a submission deadline.					
NWLON Gauges					
Operating Water Level Station Station ID					
Yorktown USCG Training Center, VA 8637689					
Chesapeake Bay Bridge Tunnel, VA 8638863					
Windmill Point, VA 8636580					

Orthometric Imagery:

No Orthometric Imagery has been provided for this project.

Shoreline and Nearshore Features:

There is no Shoreline Verification requirement for this project.



Figure: 1 - OPR-E350-TJ-13 Sheet Layout

User Contacts

The following primary offices and persons shall be contacted at or near the beginning and end of the field operations to discuss survey objectives and accomplishment (Mandatory) or are listed for contact at the discretion of the Commanding Officer (Reference).

NOAA Navigational Manager, Mid-Atlantic

L.t. Cmdr. Denise Gruccio NOAA 409 West York Street Norfolk, Virginia 23510 *Phone:* 757-441-6746 *Fax:* 757-441-6601 *Email:* denise.gruccio@noaa.gov *Obligation:* Mandatory

Virginia Pilots Association

Captain William Counselman 3229 Shore Drive Virginia Beach, Virginia 23451 *Phone:* 757-233-3012 *Fax:* 757-233-9324 *Email:* vicepres@vapilotssn.com *Obligation:* For Reference

U.S. Coast Guard, 5th District

Mr. Waverly Gregory 5th Coast Guard District 431 Crawford Street Portsmouth, Virginia 23704 *Phone:* 757-398-6222 *Fax: Email:* Waverly.W.Gregory@uscg.mil *Obligation:* For Reference

Archaeology Inventory Manager

Jolene Smith Department of Historic Resources 2801 Kensington Avenue Richmond, Virginia 23221 *Phone:* 804-482-6438 *Fax:* 804-367-2391 *Email: Obligation:* For Reference

OPR-E350-TJ-13 Southern Chesapeake Bay, VA Sheet Layout December 14, 2012

Total 8.99 SNM Critical Area 7.94 SNM Total 334 LNM



WATER LEVEL INSTRUCTIONS OPR-E350-TJ-2012 Southern Chesapeake Bay, VA (12/27/2012 HY)

1.0. TIDES AND WATER LEVELS

1.1. <u>Specifications</u>

Tidal data acquisition, data processing, tidal datum computation and final tidal zoning shall be performed utilizing sound engineering and oceanographic practices as specified in National Ocean Service (NOS) Hydrographic Surveys Specifications and Deliverables (HSSD), dated April 2012, and OCS Field Procedures Manual (FPM), dated May 2011. Specifically reference Chapter 4 of the HSSD and Sections 1.5.8, 1.5.9, 2.4.3, and 3.4.2 of the FPM.

1.2. Vertical Datums

The tidal datums for this project are referenced to Chart Datum, Mean Lower Low Water (MLLW) and Mean High Water (MHW). Soundings are referenced to MLLW and heights of overhead obstructions (bridges and cables) are referenced to MHW.

1.2.1. Water Level Data Acquisition Monitoring

The Commanding Officer (or Team Leader) and the Center for Operational Oceanographic Products and Services (CO-OPS) are jointly responsible for ensuring that valid water level data are collected during periods of hydrography. The Commanding Officer (or Team Leader) is required to monitor the pertinent water level data via the CO-OPS Web site at http://tidesandcurrents.noaa.gov/hydro.shtml, email data transmissions through TIDEBOT, or through regular communications with CO-OPS/Engineering Division (ED) personnel before and during operations. During traditional non duty hours, the Commanding Officer/Team Leader may contact the Continuous Operational Real-Time Monitoring System (CORMS) watch stander who is available 24 hours/day - 7 days/week for assistance in assessing the status of applicable water level station operation. The CORMS watch stander may be contacted either by phone at 301-713-2540 or by Email: CORMS@noaa.gov. Problems or concerns regarding the acquisition of valid water level data identified by the Commanding Officer/Team Leader shall be communicated with CO-OPS/ED (Colleen Roche, 301-713-2900 ext. 137, Email: nos.coops.oetteam@noaa.gov) to coordinate the appropriate course of action to be taken such as gauge repair and/or developing contingency plans for hydrographic survey operations. In addition, CO-OPS is required to coordinate with the Commanding Officer (or Team Leader) before interrupting the acquisition of water level data for the NWLON stations mentioned above for any reason during periods of hydrography.

1.2.2. The Hydro Hot List (HHL)

Please contact CO-OPS' Hydrographic Planning Team (HPT) at nos.coops.hpt@noaa.gov and CO-OPS' Operational Engineering Team (OET) at nos.coops.oetteam@noaa.gov at least three business days before survey operations begin, and within 1 business day after survey operations are completed so that the appropriate CO-OPS National Water Level Observation Network (NWLON) control water level station(s), as well as any required subordinate station(s), is/are added to or removed from the CO-OPS Hydro Hotlist (HHL)

(http://tidesandcurrents.noaa.gov/hydro). Include start and end survey dates, full project number

(e.g. OPR-H355-TJ-10), and control and subordinate station numbers. The notification must be sent to both teams as OET is responsible for configuring the station in the CO-OPS data base and HPT manages the addition and removal of stations from the HHL.

Station	Station ID	Control or Subordinate	Type (e.g. NWLON, PORTS©, etc)	Comment
Yorktown USCG Training	8637689	Control	NWLON	
Center, VA				
Chesapeake Bay Bridge	8638863	Control	NWLON	
Tunnel, VA				
Windmill Point, VA	8636580	Control	PORTS [©]	

Table 1: All stations that need to be added to the HHL in support of OPR-E350-TJ-2013

It is important to know that the addition of a water level station to the HHL ensures the station is monitored by CORMS and any problems are reported daily. However, platforms should view the HHL each morning of active survey operations and click on the eyeball icon to double check that there are not problems with the required stations on that day. If a platform notices problems with data on their survey day of operation, please contact HPT at <u>nos.coops.hpt@noaa.gov</u>, CORMS at <u>CORMS@noaa.gov</u>, and their respective headquarters point of contact at HSD or NSD. Stations on the HHL are given priority for maintenance should a station cease normal operation during scheduled times of hydrography. CO-OPS will notify a field unit within 1 business day if a HHL water level station ceases operation during scheduled times of hydrography. This is in addition to the daily CORMS report that CORMS sends to NOAA field units, if the field unit's e-mail address is added to the CORM's daily e-mail list. To be added to the CORMS daily HHL report, the platform should contact CO-OPS' Data Monitoring and Analysis Team (DMAT) at <u>nos.coops.dmat@noaa.gov</u> and request to be added.

If the stations are listed on HHL, then weekly priority processing will occur and, for those water level stations, verified 6-minute water level data will be made available every week on Monday or Tuesday. If Monday happens to be a federal holiday, then the 6-minute verified water level data will be made available on the following Tuesday or Wednesday.

1.3. <u>Tide Reducer Stations</u>

1.3.1. CO-OPS Long Term Water Level Station Operation and Maintenance

The NWLON stations Yorktown USCG Training Center, VA (8637689) and Chesapeake Bay Bridge Tunnel, VA (8638863), as well as the PORTS[©] station Windmill Point, VA (8636580), will provide water level reducers for this project. Therefore it is critical that they remain in operation during the survey. See Sections 1.1. and 1.2. concerning responsibilities.

No leveling is required at Yorktown USCG Training Center (8637689), Chesapeake Bay Bridge Tunnel (8638863), and Windmill Point (8636580) by the NOAA ship Thomas Jefferson personnel.

CO-OPS/FOD is responsible for the operation and maintenance of all NWLON primary control stations. If a problem is identified at an NWLON primary control station, FOD shall make all reasonable efforts to repair the malfunctioning station. However, CO-OPS may request assistance from the NOAA ship or NRT personnel in the actual repair of the water level station to

facilitate a rapid repair. CO-OPS/FOD and the Commanding Officer (or Team Leader) shall maintain the required communications until the repairs to the water level station have been completed.

1.3.2. Subordinate Station Requirements

No subordinate water level stations are required for this project, however, supplemental and/or back-up water level stations may be necessary depending on the complexity of the hydrodynamics and/or the severity of the environmental conditions of the project area. The installation and continuous operation of water level measurement systems (tide gauges) at subordinate station locations is left to the discretion of the Commanding Officer (or Team Leader), subject to the approval of CO-OPS. If the Commanding Officer (or Team Leader) decides to install additional water level stations, then a 30-day minimum of continuous data acquisition is required. For all subordinate stations, data must be collected throughout the entire survey period for which they are applicable, and not less than 30 continuous days. This is necessary to facilitate the computation of an accurate datum reference as per NOS standards.

1.3.3. Tide Component Error Estimation

This section is not applicable for this project. Tidal Constituent And Residual Interpolator (TCARI) automatically calculates the error associated with water level interpolation. This error is incorporated into the residual/harmonic solutions and included in the Total Propagated Error (TPE) for the survey.

1.3.4. GOES Satellite Enabled Subordinate Stations

This section is not applicable for this project.

1.3.5. Benchmark Recovery and GPS Requirements

This section is not applicable for this project.

1.3.6. Residual Water Level Station(s) Data

Tidal Constituent And Residual Interpolation (TCARI) method uses harmonic constituents and residuals from historical and operating water level stations to provide precise water level correction for bathymetric surveys. Download the Preliminary/Verified data at following water level station(s) data for all periods of survey.

The operating stations at Windmill Point, VA (8636580), Yorktown USCG Training Center, VA (8637689) and Chesapeake Bay Bridge Tunnel, VA (8638863) will provide residuals for this project and must remain in operation during all periods of hydrography.

Station Number Station Name		Latitude(N)	Longitude(W)	
8636580	Windmill Point, VA	37 ° 36.9'	76° 17.4'	
8637689	Yorktown USCG Training Center, VA	37 ° 13.6'	76° 28.7'	
8638863	Chesapeake Bay Bridge Tunnel, VA	36° 58.0'	76° 6.8'	

1.4. Tidal Constituent and Residual Interpolation (TCARI)

1.4.1. For hydrography in the area of southern Chesapeake Bay, apply the TCARI grid "E350TJ2013.tc" supplied in conjunction with the water level data from Section 1.3.6 to produce a seamless tide correction. Refer to the TCARI Field SOP for detailed TCARI instructions.

1.4.2. This section is not applicable for this project.

1.4.3. TCARI Diagram(s)

A diagram created in Pydro, is provided in digital copy format to assist with the information provided in section 1.4.1.

1.4.4. TCARI Final Solutions

Upon completion of project, submit a Pydro generated request for smooth tides, with times of hydrography abstract and mid/mif tracklines attached. Forward this request to <u>final.tides@noaa.gov</u>. Provide the project number, as well as sheet number, in the subject line of the email.

CO-OPS will review the times of hydrography, final tracklines, and six-minute water level data from all applicable water level gauges. If there are any discrepancies, CO-OPS will make the appropriate adjustments and forward a revised TCARI grid and solutions to the field group and processing branch for final processing.

1.5. TideBot

Preliminary and verified six minute water level time series data may be retrieved from the CO-OPS database via TideBot application. TideBot delivers timely preliminary/verified tidal and Great Lakes six minute water level observations via email to users on a scheduled, recurring basis. To access TideBot through an email account, send an email to <u>TideBot@noaa.gov</u> with the word "help" as the subject. An email reply will be sent with instructions on how to subscribe to TideBot for time series data retrieval. Six minute preliminary and verified data may also be retrieved in one month increments over the internet from the CO-OPS SOAP web services at <u>http://opendap.co-ops.nos.noaa.gov/axis/text.html</u> by clicking on "Six Minute Data".

Alternately, users may download preliminary and verified six minute water level time series data from the CO-OPS database via the Fetchtides application. Fetchtides provides a mechanism to store imported data locally and combine multiple days worth of data into one CARIS readable tide (.tid) file. Fetchtides is available for download at Hydrosoft Online (<u>https://inside.nos.noaa.gov/hydrosoft/hydrosoftware.html</u>). For more information, please see the Fetchtides User Manual in the FPM chapter 3 appendix.

1.6 Water Level Records

This section is not applicable for this project.

