Draft Cruise Instructions

Date Submitted:	January 21, 2009
Platform:	NOAA Ship *Okeanos Explorer*
Cruise Number:	EX-1001
Project Title:	Ship Shakedown / Ship Engineering
Cruise Dates:	January 26 – February 19, 2010

Prepared by: /S/ Nicola S. VerPlanck Dated: 01/25/2010
Lieutenant Nicola S. VerPlanck, NOAA
Operations Officer
NOAA Ship *Okeanos Explorer*

Approved by: /S/ Joseph A. Pica Dated: 01/25/2010
Commander Joseph Pica, NOAA
Commanding Officer
NOAA Ship *Okeanos Explorer*

Approved by: _____ Dated: 26-JAN-2010
John McDonough
Acting Director
Office of Ocean Exploration & Research

Approved by: _____ Dated: _____
Captain Michael Devany, NOAA
Commanding Officer
Marine Operations Center – Atlantic

I. **Overview**

A. Cruise Period:

February 6 – 19, 2010

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

The ship will be operating in vicinity of the island of Oahu and other major islands in the Hawaiian Island chain. Due to the status of the ship's VSAT antenna, the ship will remain in the vicinity of the islands for the purposes of avoiding inclement weather by being within a couple hours from a sheltered harbor or leeward coast.

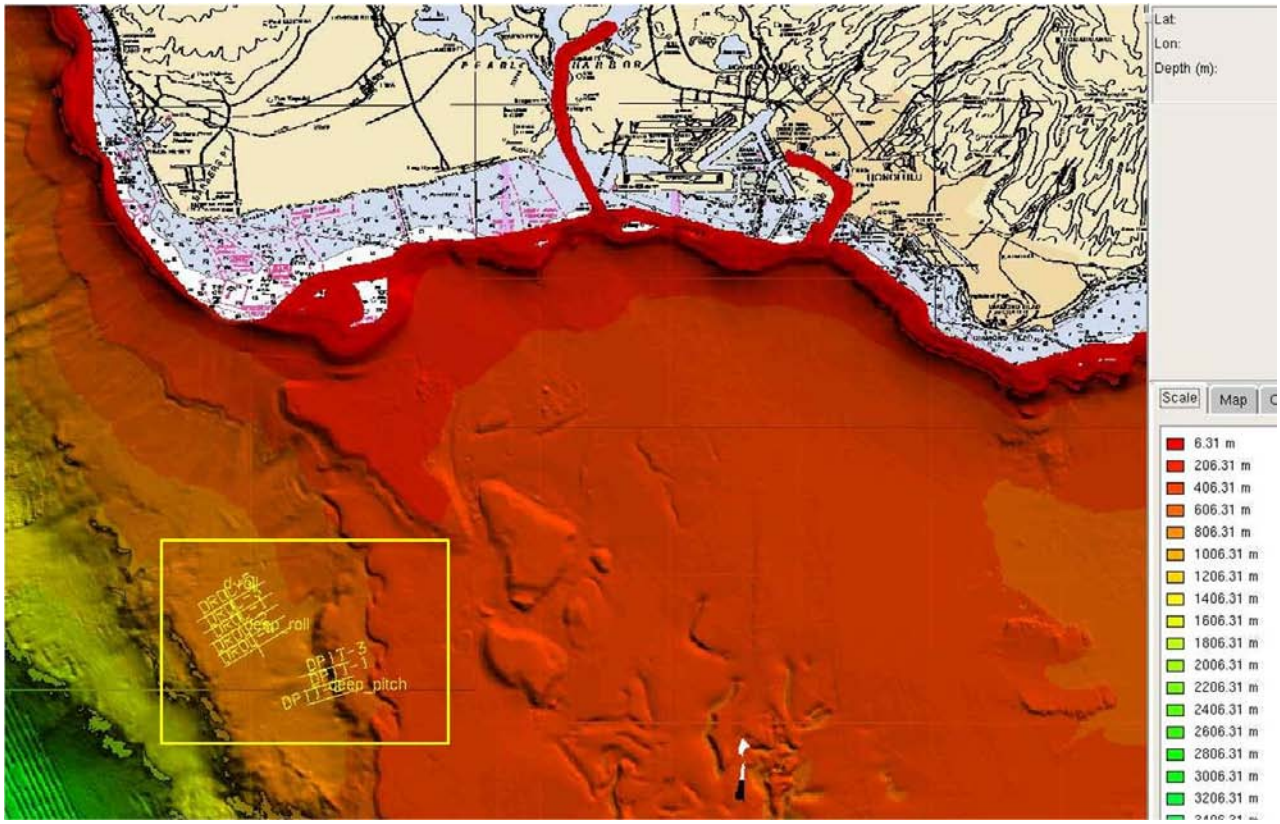

Figure 1: Shallow water patch test site. This site is just off of Pearl Harbor.

Point ID	Longitude (W)	Latitude (N)
1	158 06 27.2885	21 10 45.3517
2	158 02 02.4944	21 10 14.8602
3	158 02 23.9361	21 07 06.8497
4	158 06 29.3695	21 07 38.4595

Table 1: Location of bounding box as depicted in Figure 1.

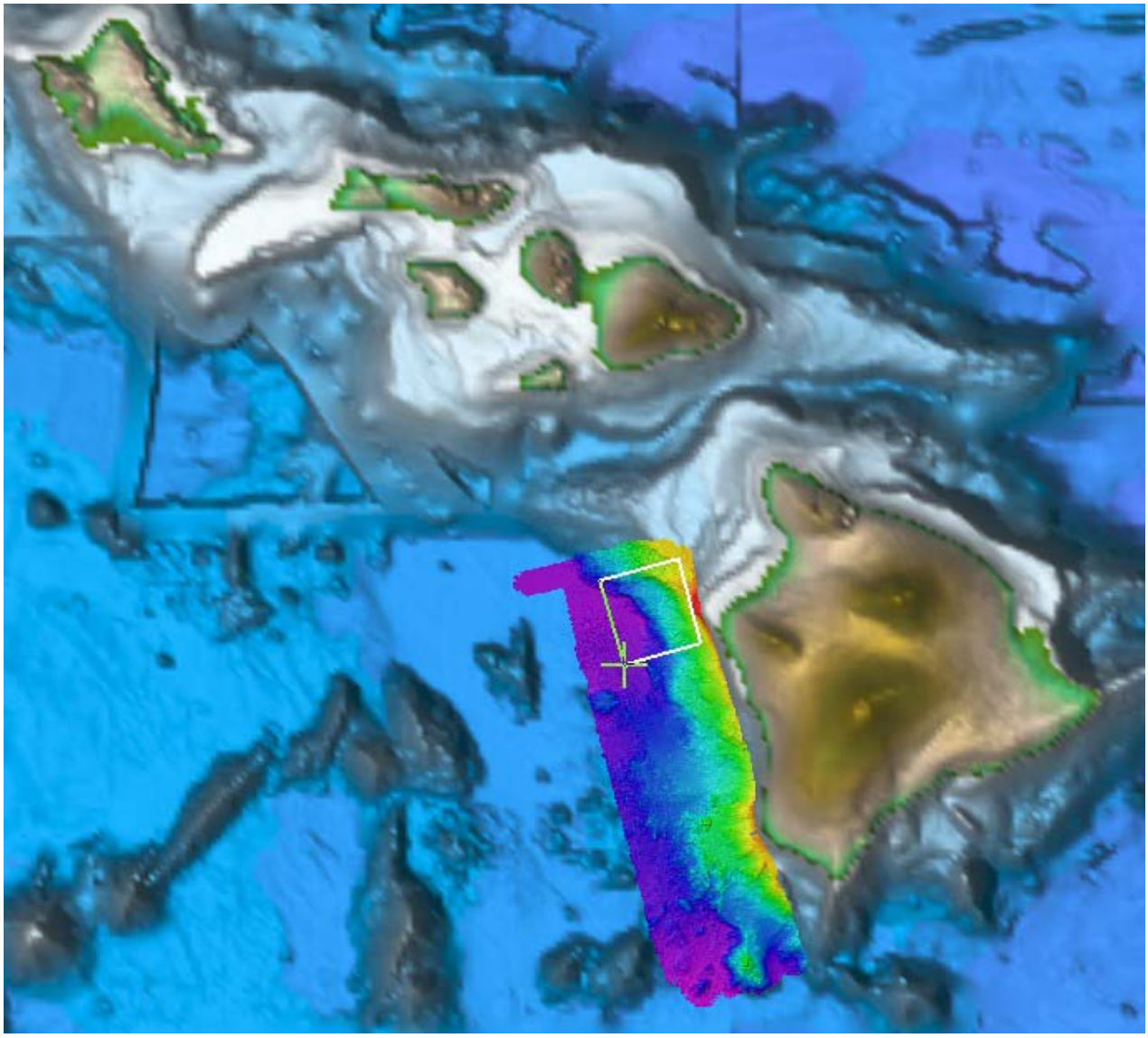

Figure 2: Deep water patch test site. This site is North West of Kona, Hawaii.

Point ID	Longitude (W)	Latitude (N)
1	156.43287135	19.89368364
2	156.17740386	19.96447369
3	156.10583847	19.69060561
4	156.35328168	19.62157130

Table 2: Location of bounding box as depicted in Figure 1.

C. Summary of Objectives

The ship has been alongside for repairs and leave since November, 2009. The ship shakedown cruise is scheduled to provide an opportunity for the ship to get underway and ensure all

equipment is operational and all necessary preparations have been made prior to conducting ROV performance testing.

1. Operation of all ship's basic equipment and routine operating procedures
    A. Annual review of watchstanding procedures & underway routines
    B. Annual review of ship's checklists (Getting Underway, Arrival, Anchoring, etc.)
    C. Fueling and ballasting procedures
    D. Operation of water makers, Marine Sanitation Device, Oily Water Separator, and all equipment typically not operational while alongside
    E. Annual review of small boat operational risk management and certification/practice for launch/recovery crews and coxswains.
2. Conduct emergency drills
    A. Fire/Damage Control
    B. Abandon Ship
    C. Man-Over-Board
    D. Steering Casualty
3. Operation of ship's equipment necessary to support operations
    A. Dynamic Positioning System Operator Practice
    B. Deck Equipment Certification Procedures and Practice
    C. Rep on board for swinging the compass
    D. Rep on board for a day to perform a ship thermographic survey
4. Run mapping systems (MBES)
    A. Shallow water Patch Test
    B. Deep water Patch Test
    C. Implement new software
    D. Outstanding issues: Subbottom Profiler sound survey
5. Test Oceanographic Systems (CTD)
    A. Test functionality of CTD sensors and water sampling bottles
    B. Test Tow-yo capabilities and limitations
6. Test ship's ROV Support Systems
    A. Deck equipment testing (A-frame, ROV Crane, Traction Winch)

D. Participating Institutions

National Oceanic and Atmospheric Administration - Office of Ocean Exploration and Research (OER) - 1315 East-West Hwy, Silver Spring, Maryland 20910

University of New Hampshire (UNH) - Center for Coastal and Ocean Mapping (CCOM) - Jere A. Chase Ocean Engineering Lab, 24 Colovos Road, Durham, NH 03824 USA

E. Personnel (Science Party)

Name	Affiliation	Role	Dates	M/F	Status
Meme Lobecker	OER	Expedition Coordinator	Feb 6 – 19	F	US Citizen
Mashkoor Malik?	OER	Mapping	Feb 6 – 19	M	US permanent resident
Ben Smith	UNH	Mapping	Feb 6 – 19	M	US Citizen
Matt Forrest	JO Rainer	Mapping	Feb 6 – 19	M	US Citizen
Karma Kissinger	OER Intern	Mapping	Feb 6 – 19	F	US Citizen
Lillian Stuart?	OER Augmentation	Mapping	Feb 6 – 19	F	US Citizen
Shannon Hoy	OER Intern	Mapping	Feb 6 – 19	F	US Citizen
EEB?	EEB	Data Management		M	US Citizen
NCDDC?	NCDDC	Data Management		M	US Citizen
Ray Sadler		Ship thermographic survey	Feb 6 – 19	M	US Citizen

F. Administrative

Key Points of Contact

Ship Operations Marine Operations Center, Atlantic (MOA)
439 West York Street
Norfolk, VA 23510-1145
Telephone: (757) 441-6776
Fax: (757) 441-6495

Marine Operations Center, Pacific (MOP)
1801 Fairview Avenue East
Seattle, WA 98102-3767
Telephone: (206) 553-4548
Fax: (206) 553-1109

Chief, Operations Division, Atlantic (MOA1)
CDR Keith Roberts
Telephone: 757-441-6842
E-mail: ChiefOps.MOA@noaa.gov

Chief, Operations Division, Pacific (MOP1)
CDR Mike Francisco
Telephone: 206-553-8705
Email: ChiefOps.MOP@noaa.gov

Mission Operations

Mashkoor Malik, Mapping Lead
NOAA Ocean Exploration & Research
(ERT, Inc.)
Phone: 603-862-4332/ 603-377-6319
E-mail: mamalik@cisunix.unh.edu

CDR Joe Pica, NOAA
Commanding Officer
NOAA Ship *Okeanos Explorer*
Phone: 401-378-8284
Email: CO.Explorer@noaa.gov

LT Nicola VerPlanck, Field Operations Officer
NOAA Ship *Okeanos Explorer*
Phone: 321-960-3726
E-mail: OPS.Explorer@noaa.gov

Other Mission Contacts

Craig Russell, EX Program Planner
NOAA Ocean Exploration & Research (ERT, Inc.)
Phone: 206-526-2803 / 206-518-1068
E-mail: Craig.Russell@noaa.gov

John McDonough, Deputy Director
NOAA Ocean Exploration & Research
Phone: 301-734-1023 / 240-676-5206
E-mail: John.McDonough@noaa.gov

Dave Lovalvo, ROV Program Manager for NOAA Eastern Oceanics
Phone: 203-246-5531
Email: eo@wispwest.com

Catalina Martinez
NOAA OER
Phone: 401-874-6250 (office)
Email: Catalina.martinez@noaa.gov

Webb Pinner, Telepresence Technical Liaison for NOAA 2020 Contractor for NOAA OE
Phone: 401-864-9770
Email: webb.pinner@noaa.gov

Shipments

Be sure to send an email to the EX Ops Officer OPS.Explorer@noaa.gov indicating the size and number of items being shipped.

NOAA Ship Okeanos Explorer
1897 Ranger Loop
Building 184
Honolulu, HI 96818

1. Diplomatic Clearances

NOT APPLICABLE TO THIS CRUISE

2. Licenses and Permits

NOT APPLICABLE TO THIS CRUISE

II. **Operations**

A. Cruise Plan Itinerary

January 26 – February 2, 2010

Alongside training:

- Small boat operations training and coxswain qualifications
- Deck Equipment training and certifications

February 3 – 5, 2010

An Indonesia cruise planning meeting will take place during the inport period. Part of this meeting includes a ship's tour at Ford Island, scheduled on February 4th for the Indonesian Delegation and US scientists participating in the Indonesian cruises.

February 7 – 19, 2010

Saturday, February 6
Safety Stand down Day - Alongside
0730 Safety Meeting
0800-0830 All Hands with CO
0830-1100 Fire Drill: Pre-brief, Drill, and De-brief
1200-1300 Abandon Ship Drill
1300-1400 Man-Over-Board Drill
1400-1530 Contingency time to address items discovered in the prior drills
1530- All Hands Group Activity

Monday, February 8
0730 Safety Meeting
0900 ETD F9 Pier for transit to the H Pier
1000 ETA H Pier for Fueling
1030-1800 Fueling ~78,000 gallons

Tuesday, February 9
0800 Safety Meeting
0900 ETD H Pier
0930-1300 Swinging the compass
1400-1600 Small boat transfer & continue small boat operations (Coxswain Qualifications / Practice)
1600 OPS Brief

Wednesday, February 10 – Thursday, February 18

- Conduct CTD and XBT comparison
- Calibrate Multibeam (shallow and deep water Patch Test)
- Test Sub-Bottom Profiler and Singlebeam sonar
- Implementing new survey software
- Conduct a ship thermographic survey
- Run EM302 continuously to test new transmit boards
- Testing To-yo's capabilities and limitations
- Dynamic Positioning System testing and Operator Practice
- Deck Equipment Certification Practice - in tandem with DP

Friday, February 19
0800 Safety Meeting
0900 ETA Pearl Harbor

B. Staging and destaging

NOT APPLICABLE TO THIS CRUISE

C. Operations

Multibeam Operations

The following mapping operations are intended for the shakedown cruise.

MBES Patch test**:** Patch test is conducted to identify any roll, heave, pitch and time offsets between MBES and the motion sensor. The ship is run over small lines (~ 1-4 km) in several configurations to assess these offsets. For detailed description of carrying out patch test refer to the EX SOP for conducting a patch test. Patch test will ensure the ability of the sonar system to collect good bathymetric data and proper integration with ancillary sensors.

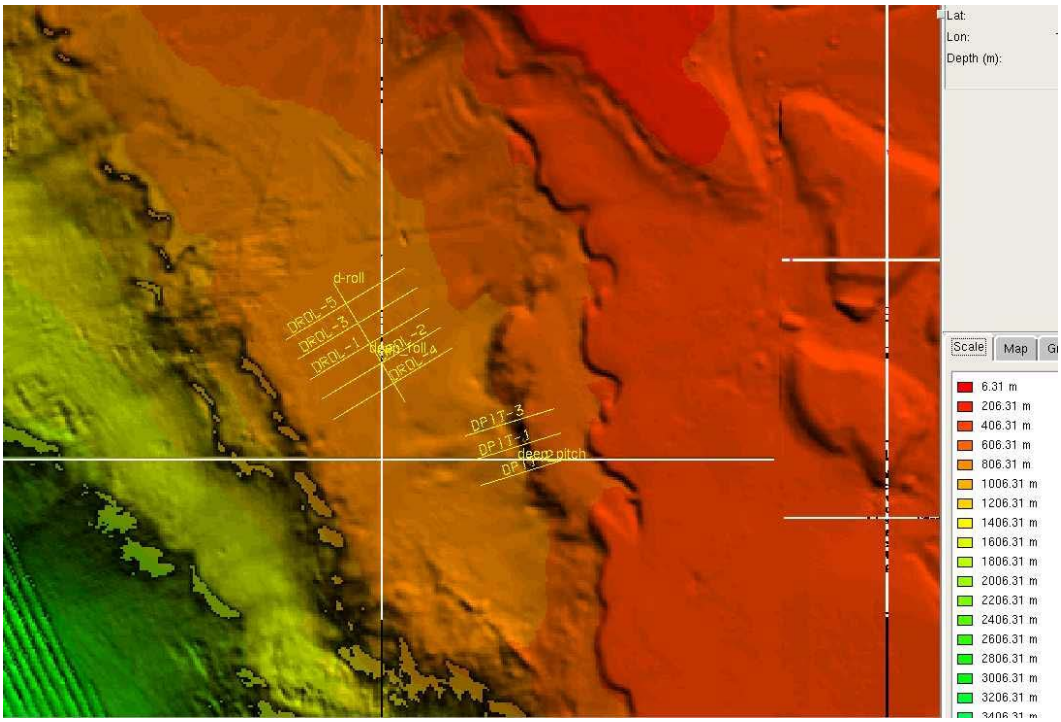

Figure 3: Shallow water patch test site. The sloping seafloor will be used for pitch and timing patch Test. Relatively flat seafloor in the vicinity of this site will be used for roll patch test.

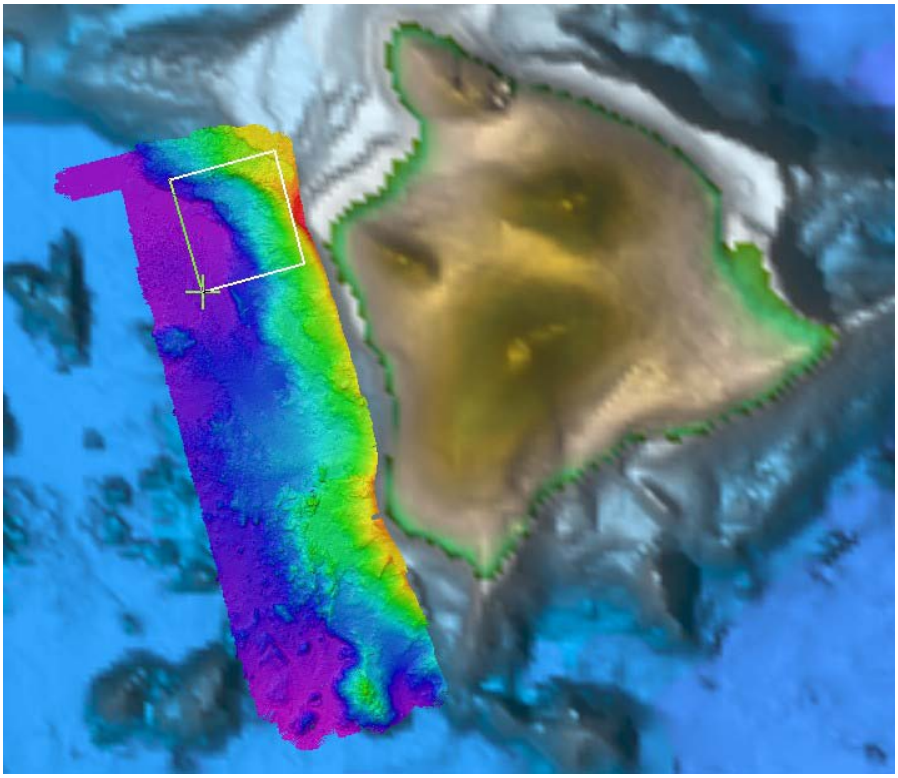

Figure 4: Deep water patch test site.

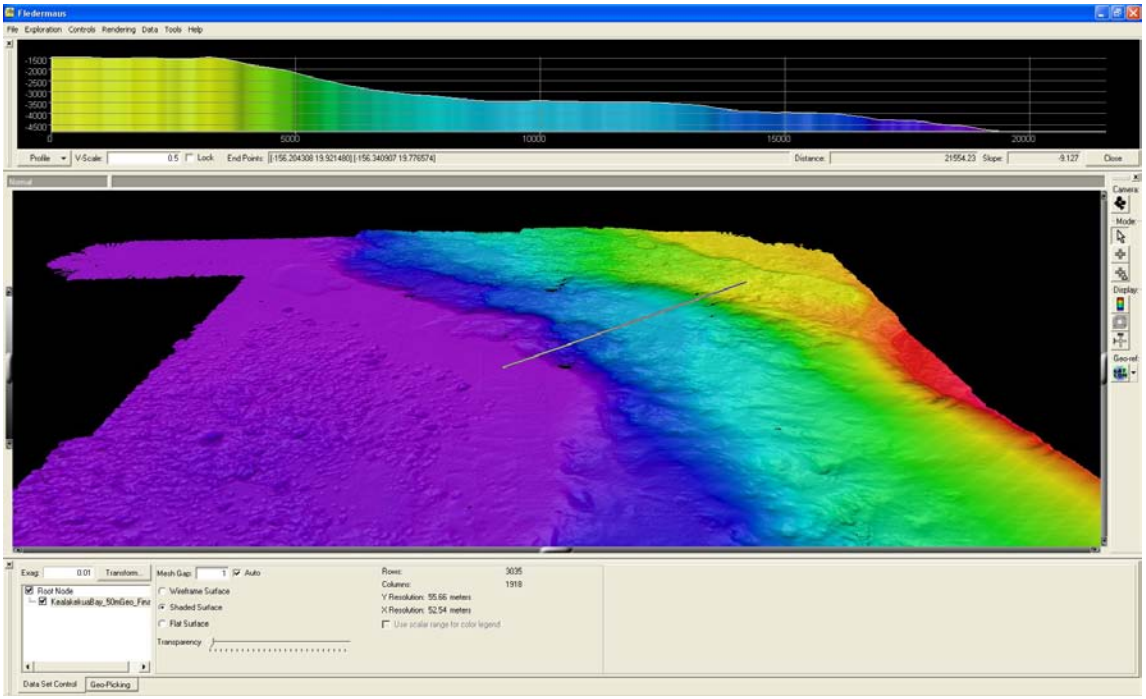

Figure 5: Deep water patch test site profile. Same as for the shallow water patch test, the sloping seafloor will be used for pitch and timing patch Test. Relatively flat seafloor in the vicinity of this site will be used for roll patch test.

Preliminary mapping systems testing methodology:
1. With same version / setup as last year, conduct a patch test to verify that all the ancillary systems are properly configured / working.
2. Introduce the system updates / version upgrades and repeat the patch test.
3. Continue running the system for the duration of cruise in Dynamic Dual Swath mode to make sure that transmit boards do not fail.
4. Assess the data compatibility with processing softwares (CARIS, Fledermaus, Geocoder) before and after change of versions / upgrades.
5. Assess the affect of system upgrades. Few of the things that Kongsberg mentioned that we expect to improve are BSO/BSN issues.
6. Test and evaluate EA 600.
7. Test the operation of all the mapping sensors together (Knudsen, EA600, EM 302) to assess if there are any lingering interference issues.

Updating the mapping software (TRU, CARIS HIPS, SIS etc.) The software updates will be conducted after testing all the mapping sensors with 2008 hard ware / software configuration. Tests will be conducted before and after the software upgrades to ensure that change in any software is detected and understood.

Other Operations

Testing and running the Sub Bottom Profiler, the Singlebeam, USBL and SCS system.

Sub-bottom profiler (Knudsen Chirp 3260) has been observed (by ship's crew) to be excessively loud during 2009 field trials, however, no detailed quantitative study has been conducted to assess the level of loudness while operating Knudsen at different power levels. As a consequence, operation of sub-bottom profiler has been limited to short durations, during day time and with low power level settings. To safeguard the ship's crew against any potential excessive noise hazard from operation of Knudsen sub-bottom profiler a detailed noise-level study is deemed necessary. Noise survey of the ship will need to be conducted while the ship is operating Knudsen at different power level settings. Consequently, this test cannot be carried out in Pearl Harbor and the ship has to conduct this test out at sea.

Small boat operations

Small boat operations will be conducted for training of the ship's coxswains and in support of small boat transfers. Small boat operations are weather dependent and at the Command's discretion.

D. Dive Plan

NOT APPLICABLE TO THIS CRUISE

E. Applicable Restrictions

NOT APPLICABLE TO THIS CRUISE

III. **Equipment**

A. Equipment and capabilities provided by the ship

- Kongsberg Simard EM302 Multibeam Echosounder (MBES)
- Kongsberg Simrad EA600 Deepwater Echosounder
- Knudsen Chirp 3260 Sub-bottom profiler (SBP)
- LHM Sippican XBT (various probes)
- Seabird SBE 911Plus CTD
- CNAV GPS
- POS/MV
- Seabird SBE-45 (Micro TSG)
- Kongsberg Dynamic Positioning-1 System
- NetApps mapping storage system
- CARIS HIPS Software
- IVS Fledermaus Software
- SIS Software
- Hypack Software
- Scientific Computing System (SCS)
- ECDIS
- Met/Wx Sensor Package
- Telepresence System
- VSAT High-Speed link (5 Mbps to shore and 512 Kbps to ship)

B. Equipment and capabilities provided by the scientists

NOT APPLICABLE TO THIS CRUISE

IV. **Hazardous Materials**

A. Policy and Compliance

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

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

amount of hazardous material arriving and leaving the vessel shall be accounted for by the Expedition Coordinator.

B. Radioactive Isotopes

Each scientist working with these materials will be required to wear a lab coat and disposable booties to reduce the likelihood of tracking the substance out of the specified working area.

It will be the responsibility of the investigator to conduct pre-cruise (for background) and post-cruise wipe tests (regardless of whether a spill occurred or not). Wipe tests should also be conducted in the event of a spill, as well as periodically while underway.

A detailed procedural methodology describing the use of these materials should be provided to the Environmental Compliance Officer (ECO) for review at least one month prior to bringing them aboard. A spill contingency plan should also be provided at the same time. Please note that ship's personnel are not first responders in the event of a spill.

A log detailing the type and amount of materials brought aboard and removed from of the ship shall be maintained, along with a record of any spills that occurred.

All radioisotope work will be conducted by NRC or State licensed investigators only, and copies of these licenses shall be provided to the ECO at least one month prior to bringing any materials on board.

C. Inventory

NOT APPLICABLE TO THIS CRUISE

V. **Additional Projects**

A. Supplementary ("Piggyback") Projects

NOT APPLICABLE TO THIS CRUISE

B. NOAA Fleet Ancillary Projects

NOT APPLICABLE TO THIS CRUISE

VI. **Disposition of Data and Reports**

A. Data Responsibilities

All data acquired on the EX will be provided to the public archives without proprietary rights.

Ship Responsibilities

The Commanding Officer is responsible for all data collected for missions until those data have been transferred to mission party designees. Data transfers will be documented on NOAA Form 61-29. Reporting and sending

copies of project data to NESDIS (ROSCOP form) is the responsibility of OER.

NOAA OER Responsibilities

The Expedition Coordinator will work with the EX Operations Officer to ensure data pipeline protocols are followed for final archive of all data acquired on the EX without proprietary rights.

Deliverables

a. At sea
   - Daily plans of the Day (POD)
   - Daily situation reports (SITREPS)

b. Post cruise
   - Refined SOPs for all pertinent operational activities
   - Assessments of all activities

c. Science
   - CTD data and multibeam data from CTD cast locations on CDs

Archive

- The Program and ship will work together to ensure proper archive of metadata and acquired data sets, and that all metadata and data formats meet FGDC compliance. Details TBD.

B. Pre and Post Cruise Meeting

Pre-Cruise Meeting

Prior to departure, the Expedition Coordinator will conduct a meeting of the scientific party to inform them of cruise objectives. Some vessel protocols, e.g., meals, watches, etiquette, etc. will be presented by the ship's Operations Officer.

Post-Cruise Meeting

Upon completion of the cruise, a meeting will normally be held at 0830 (unless prior alternate arrangements are made) and attended by the ship's officers, the Expedition Coordinator and members of the scientific party to review the cruise. Concerns regarding safety, efficiency, and suggestions for improvements for future cruises should be discussed.

Shipboard Meetings

Daily Operations Briefing meetings will be held at 1530 in the forward lounge to review the current day, and define operations, associated requirements and staffing needs for the following day. A Plan of the Day (POD) will be posted each evening for the next day in specified locations throughout the ship. A safety brief and overview of POD will occur on the Bridge each morning

at 0800. Daily Situation Reports (SITREPS) will be posted as well and shared daily through e-mail and/or the EX PLONE site (http://terra.gso.uri.edu/NOAAShipOkeanosExplorer).

C. Ship Operation Evaluation Report

Within seven days of the completion of the cruise, a Ship Operation Evaluation form is to be completed by the Expedition Coordinator. The preferred method of transmittal of this form is via email to OMAO.Customer.Satisfation@noaa.gov. If email is not an option, a hard copy may be forwarded to:

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

VII. **Miscellaneous**

A. Meals and Berthing

Meals and berthing are required for up to 19 scientists. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the cruise, and ending two hours after the termination of the cruise. Since the watch schedule is split between day and night, the night watch may often miss daytime meals and will require adequate food and beverages (for example a variety of sandwich items, cheeses, fruit, milk, juices) during what are not typically meal hours. Special dietary requirements for scientific participants will be made available to the ship's command at least seven days prior to the survey (e.g., Expedition Coordinator is allergic to fin fish).

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Expedition Coordinator. The Expedition Coordinator and Operations 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 Expedition Coordinator 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 Expedition Coordinator is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the cruise and at its conclusion prior to departing the ship.

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

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

B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, Revised: 08/08) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Expedition Coordinator or the NOAA website at NOAA HEALTH SERVICES QUESTIONNAIRE. The completed form should be sent to the Regional Director of Health Services at Marine Operations Center. The participant can mail, fax, or scan the form into an email using the contact information below. The NHSQ should reach the Health Services Office no later than 4 weeks prior to the cruise to allow time for the participant to obtain and submit additional information that health services might require before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of the NHSQ. Be sure to include proof of tuberculosis (TB) testing, sign and date the form, and indicate the ship or ships the participant will be sailing on. Clearances are valid for 2 years for personnel under age 50 and 1 year for age 50 and over. All PPD's expire after one year from the date of administration. 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 Expedition Coordinator must provide a listing of emergency contacts to the Operations Officer for all members of the scientific party, with the following information: name, address, relationship to member, and telephone number.

C. Shipboard Safety

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

Operational Risk Management: For every operation to be conducted aboard the ship (NOAA-wide initiative), risk management procedures will be followed. For each operation, risks will be identified and assessed for probability and severity. Risk mitigation strategies / measures will be investigated and implemented where possible. After mitigation, the residual risk will have to be assessed to make Go-No Go decisions for the operations. Particularly with new operations, risk assessment will be ongoing and updated as necessary. This does not only apply to over-the-side operations, but to everyday tasks aboard the vessel that pose risk to personnel and property.

- CTD (and other pertinent) ORM documents will be followed by all personnel working on board the EX
- All personnel on board are in the position of calling a halt to operations/activities in the event of a safety concern.

D. Communications

Specific information on how to contact the NOAA Ship *Okeanos Explorer* and all other fleet vessels can be found at: http://www.moc.noaa.gov/phone.htm

Important Telephone and Facsimile Numbers and E-mail Addresses

Ocean Exploration and Research (OER):

OER Program Administration:
Phone: (301) 734-1010
Fax: (301) 713-4252
E-mail: Firstname.Lastname@noaa.gov

University of New Hampshire, Center for Coastal and Ocean Mapping

Phone: (603) 862-3438
Fax: (603) 862-0839

NOAA Ship Okeanos Explorer - Telephone methods listed in order of increasing expense:

EX Cellular:
OOD (401) 378-7414

EX Iridium:
(808) 659-9179

EX INMARSAT B
Line 1: 011-872-764-852-328
Line 2: 011-872-764-852-329

Voice Over IP (VoIP) Phone:
301-713-7772 (expect a delay once picked up by directory)

Mission personnel may obtain access to these systems with permission from the Commanding Officer on a cost-reimbursable basis.

E-Mail: Ops.Explorer@noaa.gov - (mention the person's name in SUBJECT field)

expeditioncoordinator.explorer@noaa.gov - For dissemination of all hands emails by Expedition Coordinator while on board. See ET for password.

E. IT Security

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

1. Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.

2. Installation of the latest critical operating system security patches.

3. No external public Internet Service Provider (ISP) connections.

Completion of these requirements prior to boarding the ship is preferable.

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. OER 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 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 Expedition Coordinator:

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 Expedition Coordinator is responsible to provide escorts to comply with NAO 207-12 Section 5.10, or as required by the vessel's DOC/OSY Regional Security Officer.

3. Ensure all non-foreign national members of the scientific party receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the servicing Regional Security Officer.

4. Export Control - The NEFSC currently neither possesses nor utilizes technologies that are subject to Export Administration Regulations (EAR).

The Commanding Officer and the Expedition Coordinator 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 Expedition Coordinator or the DSN of the FRNS e-mail granting approval for the foreign national guest's visit.

5. Ensure Foreign Port Officials, e.g., Pilots, immigration officials, receive escorted access in accordance with maritime custom to facilitate the vessel's visit to foreign ports.

6. Export Control - 8 weeks in advance of the cruise, provide the Expedition Coordinator 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 Expedition Coordinator of any OMAO-sponsored foreign nationals that will be onboard while program equipment is aboard so that the Expedition Coordinator can take steps to prevent unlicensed export of Program controlled technology. The Commanding Officer and the Expedition Coordinator will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.

7. Ensure all OMAO personnel onboard receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the servicing Regional Security Officer.

Responsibilities of the Foreign National Sponsor:

1. Export Control - The foreign national's sponsor is responsible for obtaining any required export licenses and complying with any conditions of those licenses prior to the foreign

national being provided access to the controlled technology onboard regardless of the technology's ownership.

2. The DSN of the foreign national shall assign an on-board Program individual, who will be responsible for the foreign national while on board. The identified individual must be a U.S. citizen, NOAA (or DOC) employee. According to DOC/OSY, this requirement cannot be altered.

3. Ensure completion and submission of Appendix C (Certification of Conditions and Responsibilities for a Foreign National Guest) as required by NAO 207-12 Section 5.03.h.