U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
3500 Delwood Beach Rd.,
Panama City Beach, FL
32408

Project Instructions

Date Submitted: 03/28/2025

Platform: NOAA Ship OREGON II

Cruise Number: R2-25-01 (355)

Project Title: G-FISHER Survey

Cruise Dates: 04/08/2025 - 05/21/2025

Prepared by: OVERLY.KATHERINE.ELIZABETH.1516477357 Digitally signed by OVERLY.KATHERINE.ELIZABETH.1516477357 Date: 2025.03.28 15:27:00 -05'00'
Field Party Chief
Date: 03/28/2025

Approved by: Digitally signed by KELLISON.GREGORY.TODD.1365849206 Date: 2025.03.31 07:50:41 -04'00'
Division Director
Date: 03/31/2025

Approved by: GERARD.TRIKA.LOLANI.1365898134 Digitally signed by GERARD.TRIKA.LOLANI.1365898134 Date: 2025.04.01 06:51:12 -04'00'
Director, SEFSC
Date: 04/01/2025

Approved by: JASKOSKI.MATTHEW.JACOB.1275636262 Digitally signed by JASKOSKI.MATTHEW.JACOB.1275636262 Date: 2025.04.01 14:31:13 -04'00'
Commanding Officer
Marine Operations Center - Atlantic
Date: 04/01/2025

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1. Overview

1.1 Project Purpose

NOAA Ship *Oregon II* will conduct a survey of reef fish on the U.S. continental shelf of the GOA using custom built spherical stereo/video stationary camera systems. Water will be sampled using an environmental sensor paired with the stereo camera array in addition to the deployment of an environmental DNA (eDNA) sampler to collect benthic water samples at select stations, paired with stereo camera array deployments.

1.2 Project Impact

The impact or results of this requirement is the collection of critical data used to estimate abundance of federally managed stocks of critical reef fish managed by the Southeast Fisheries Science Center (e.g. snapper-grouper complex). This survey also collects hydrological, oceanographic, habitat, and genomics data that are used directly as variables in estimating relative abundance, or in developing survey designs to optimize survey results and impacts. This work is focused directly on federal mandates associated with the Magnuson–Stevens Fishery Conservation and Management Act (2007) which are included as high level objectives for NMFS and the SEFSC.

This work is authorized under the following Statutory Authorities or Laws:
● Magnuson–Stevens Fishery Conservation and Management Act (2007), 16 U.S.C. 1881 MSA § 401 TITLE IV—FISHERY MONITORING AND RESEARCH

The requirement aligns with the statute(s) because this data is used to estimate relative abundance for 20+ species of reef fish managed in part by the Southeast Fisheries Science Center. This particular survey is routinely ranked first or second priority in the SEFSC and also is the only survey that has the ability to sample high-complexity reef habitats that otherwise destroy both the gear and the habitat (e.g. trawls). Relative abundance indices are vital inputs to the stock assessment process.

1.3 Project Performance Metrics

(1) Video/Optical Sampling

Camera Array Deployments, # Needed: 349

(2) Tactile/Tangible Sampling

Environmental DNA Water samples from Camera Array Deployments, # Needed: Minimum of 31

(3) Chemical/Oceanographic Sampling

CTD, # Needed: Minimum of 80 bottle collection

1.4 Days at Sea (DAS)

Of the 40 DAS scheduled for this project, 40 DAS are funded by a Line Office allocation

1.5 Participating Institutions

(A) FedGeek

(B) Southeast Fisheries Science Center (SEFSC)

(C) Mississippi State University/Northern Gulf Institute (MSU/NGI)

(D) Earth Resources Technology, Inc. (ERT)

1.6 Licenses and Permits

This project will be conducted under the NMFS SEFSC Regional Scientific Research Permit (U.S.) and the following:

1. NMFS Highly Migratory Species Permit # HMS-SRP-24-25 - to be updated prior to sampling second leg
2. LA Wildlife and Fisheries Scientific Permit # SCP 46
3. AL Marine Resource Division Permit # 2025-03-01
4. MS Department of Marine Resources Permit # SRP-020-23 - to be updated prior to sampling
5. FL Fish and Wildlife Conservation Commission Permit # SAL-23-2528-SR
6. NOAA/ONMS Flower Garden Banks National Marine Sanctuary Permit #FGBNMS-2024-001
7. TX Parks and Wildlife Scientific Permit # SPR-0614-096

1.7 Foreign Research Clearances

None required.

1.8 Personnel/Science Party

(A) Principal Investigators/Chief Scientists

Name & Title:	Katherine Overly
Laboratory/Office:	NMFS Panama City Laboratory
Phone Number:	810-300-9731
Email Address:	katherine.overly@noaa.gov

(B) Additional Contacts

Name & Title: Matthew Campbell
Laboratory/Office: NMFS Mississippi Labs
Phone Number: 228-549-1690
Email Address: matthew.d.campbell@noaa.gov

Name (Last, First)	Title	Date Aboard	Date Disembark	Gender	Affiliation	Nationality
Caillouet, Ryan	Watch Stander	4/8/25	4/18/25	M	FedGeek	US
Masarik, Isabella	Watch Stander	4/8/25	4/18/25	F	FedGeek	US
Overly, Kate	FPC/WL	4/8/25	4/18/25	F	NMFS	US
Ravas, Amanda	Watch Stander	4/8/25	4/18/25	F	FedGeek	US
Felts, Paul	Watch Stander	4/21/25	5/6/25	M	NMFS	US
Ravas, Amanda	Watch Stander	4/21/25	5/6/25	F	FedGeek	US
Salisbury, Joseph	WL	4/21/25	5/6/25	M	ERT	US
Brown, Scott	Watch Stander	5/9/25	5/21/25	M	NMFS	US
Masarik, Isabella	WL	5/9/25	5/21/25	F	FedGeek	US
Salisbury, Joseph	Watch Stander	5/9/25	5/21/25	M	ERT	US

1.9 Project Classification

(A) Supplementary (“Piggyback”) Projects
NONE

(B) NOAA Fleet Ancillary Projects
NONE

2. Operations

2.1 Project Area

Gulf of America (Alabama, Florida Gulf Coast, Louisiana, Mississippi, and Texas).

(A) Desired Operational Waters
Coastal and Oceanic

(B) Way Point/Station List

FPC/WL will provide coordinates

(C) Project Area Shapefile(s)

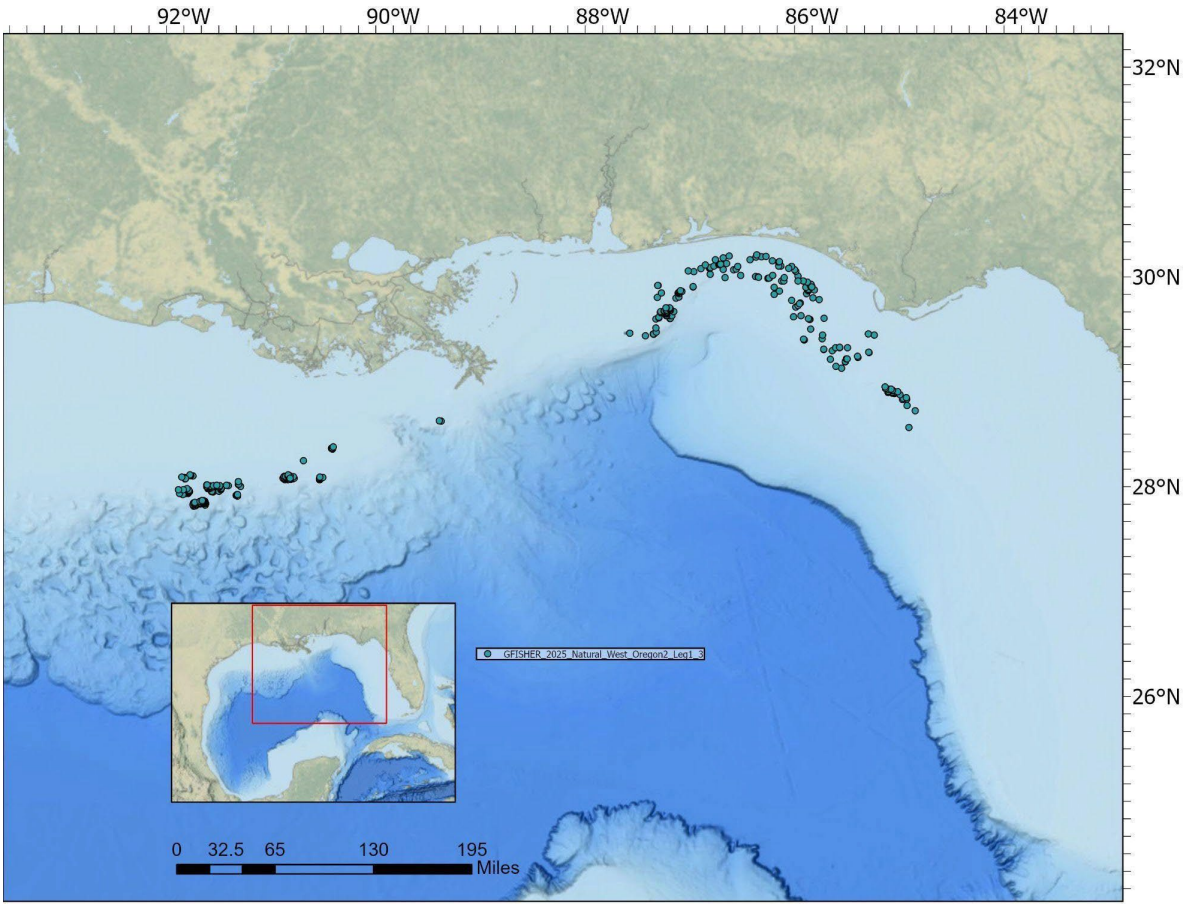

Figure 1. Selected sample stations in the Gulf of America (Alabama, Florida Gulf Coast, Louisiana, Mississippi, and Texas), n=362.

2.2 Project Itinerary

(A) Starting Port: Pascagoula, MS

(B) Number (#) of Staging Days: 1-3

(C) Itinerary Information:

Leg	Port of Call	Dates	Region	DAS	FPC
1	Pascagoula, MS Pascagoula, MS	4/8/2025 4/18/2025	East Gulf	11	Kate Overly
2	Pascagoula, MS Pascagoula, MS	4/21/2025 5/6/2025	East Gulf	16	Joseph Salisbury
3	Pascagoula, MS Pascagoula, MS	5/9/2025 5/21/2025	West Gulf	13	Isabella Masarik

(D) Intermediate Port Call(s): Pascagoula, MS

(E) Foreign Port Call(s): N/A

(F) Ending Port: Pascagoula, MS

(G) Number (#) of Destaging Days: 1-3

2.3 Staging and Destaging

(A) Camera arrays, equipment, and bait will be lifted onto the vessel with use of the crane. Bait must be stored immediately in freezer. (Reverse for destaging).

(B) A crane will be necessary to load/unload other miscellaneous gear on board using baskets and/or cargo nets.

2.4 Operations To Be Conducted

NOAA Ship *Oregon II* will conduct a survey of reef fish located on the US continental shelf and shelf-edge of the GOA from April 8th through May 21st, 2025. Three-hundred and sixty-two stations have been selected to be sampled with a Spherical/Satellite camera array, 31 of which will have eDNA samples taken (Figure 1). The CTD rosette will be deployed at select sampling stations, a minimum of 80 deployments will occur. Individual sampling sites will be supplied prior to sailing.

(A) Camera Array Operations: Camera operations will utilize three spherical camera arrays, measuring 36” tall, 40” diameter (Figure 2). Each camera array has a mounted In-Situ Aqua TROLL 600 Sonde CTD which collects environmental parameter data during the camera soak time, three pressure housings (rated to 500 m), one containing six video cameras which provide a near spherical field of view and the other two containing the satellite cameras. One of the three camera arrays will also house a water collection system employed for eDNA sampling at target stations.

Camera sampling will occur over the course of roughly 12 hours, beginning around 1 hour after sunrise, and ending as late as ~1 hour after sunset, depending on daylight, tides, and weather. The Field Party Chief has the final authority except in matters relating to safety of the vessel and all personnel on board. The workday for the vessel crew may occasionally exceed that of the scientific field party, since they will normally be required to transit to the next survey area after completion of the sampling day, so that sampling can commence early the following morning. Scientific personnel will download, charge, maintain, and prepare all video equipment after the field day, for the next field day.

An average of 10-30 sampling stations will be completed each day. A total of 362 station coordinates will be supplied to the Oregon II for targeting deployments. The spacing of stations, weather, and vessel capability will determine the amount of stations completed in a sampling day. Coordinates for the stations will be provided by the FPC prior to the start of the shift. An overview of the area to be covered for camera deployments can be found in Figure 1. The FPC will communicate with the Operations Officer to determine the most efficient track/order for completing the specified stations. Generally speaking, the shortest route from station to station will be routed by the Ship. In order to reach sampling objectives, it is recommended that the ship transit between stations at approximately 9-10 knots, weather, sea state and traffic condition dependent. In some instances pre-selected stations may need to be moved and/or dropped to make sure that survey areas are adequately sampled in the allotted sea days/leg, the FPC will inform the CO if these instances occur. The FPC and/or Watch Leader must be involved in any alteration to planned stations before changes are made to maintain the proportional allocation of stations. The first two legs of this project will target the “East Gulf” (stations east of the Mississippi river; Figure 1) and the third leg of the project will target the “West Gulf” (stations to the west of the Mississippi river; Figure 1).

In order to maximize sampling time, multiple Spherical/Satellite camera arrays may be set consecutively, no more than two camera arrays will be soaking at any given time to ensure adequate time for pickup. The clustered sites will be separated by a minimum of 0.2 nm and maximum of 2.5 nm. This will ensure relatively quick and safe transit between individual sites. While the first camera array is soaking, the ship will proceed to the next site and deploy an additional array. Once the second camera array is in the water, the ship will retrieve the first deployment, then second and so on if conditions permit. As sea conditions change, deployment and retrieval order may be modified by the FPC or bridge to avoid navigation issues (e.g. buoys in close proximity and changing currents). Deployments will always be coordinated with the bridge and deck to ensure safe operations, correct line and camera selection, and to verify site # and location information.

The deployment of a stationary camera array will occur with the assistance of the vessels Crew, while the OOD maintains station. The arrays will be baited with mackerel and squid prior to deployment by the science staff. The camera array and included

equipment will be deployed off the back deck with a line (of adequate length to account for depth and current) and surface floats. The camera array will soak for a total of 30 minutes once the camera array is released at the surface. The float and line must be undergoing retrieval at 30 minutes precisely (i.e. hitting the line). For retrieval, the OOD will return to the stationary camera array buoy, and the Crew will assist with the retrieval of the line. The array will be brought back on board, and the Scientific Crew will turn-off and charge necessary video equipment, as well as process any water samples necessary at that station, and re-bait the camera array for the next deployment.

Select stations will require benthic water samples to be taken with the deployment of the camera array (1-5 per day, typically). A total of 5 L of water will be collected at a minimum of 31 stations. The scientific crew will process the water sample immediately following its retrieval from the camera array on the back deck of the boat, in a pre-designated clean laboratory space. Once processed, the sample will be placed in the pre-signated clean freezer.

Deployment of Camera Array

2:1 line scope. Ten, five, and two minutes prior to arrival at the site, the bridge is to alert the science and deck crews. At the two minute mark the camera should be ready to deploy and a member of the science party will turn them on. Once the camera has started recording on deck, the ship should be in position to deploy and the FPC will give the all clear to drop.

Retrieval of Camera Array

Ten, five, and two minutes prior to retrieval, the FPC is to alert the science and deck crews. At the two minute mark, the ship should be in a position standing by to grab the lines and begin haul back once the FPC has given the all clear that the soak time is complete.

(B) CTD Operations: A minimum of 80 deployments with the CTD will be necessary during the project. CTD casts will be conducted prior to the first camera deployment in the morning and following the last camera retrieval in the evening. The CTD will also serve as a back-up method for collecting eDNA samples, should the sampler system on camera array fail. During the CTD cast, one to three bottles may be fired near the seafloor for eDNA samples. A total of 5 L of benthic water must be collected in total from a station. If an issue arises with the eDNA sampler on the camera array, the CTD will be deployed following the retrieval of the camera array to collect a benthic water sample. It is imperative that the CTD be deployed at the same coordinates at the previously collected video sample.

(C) Mitigation Measure for Protected Species: Under the Preferred Alternative, the SEFSC will initiate a formalized “Move-on” Rule. If any protected species are sighted around the vessel before setting the gear, the vessel may be moved away from the

animals to a different section of the sampling area if the animals appear to be at risk of interaction with the gear at the discretion of the FPC (Chief Scientist) and Scientific Watch Leader. In most cases, fishing gear is not deployed if protected species have been sighted near the ship unless those animals do not appear to be in danger of interactions with the gear, as determined by the judgment of the FPC (Chief Scientist) and Scientific Watch Leader.

The SEFSC will initiate a process for its FPC (Chief Scientist), Scientific Watch Leaders and vessel officers to communicate with each other about their experiences with protected species interactions during research work with the goal of improving decision-making regarding avoidance of adverse interactions. As noted in the Status Quo Alternative description of mitigation measures, there are many situations where professional judgment is used to decide the best course of action for avoiding protected species interactions before and during the time research gear is in the water. The intent of this mitigation measure would be to draw on the collective experience of people who have been making those decisions, provide a forum for the exchange of information about what went right and what went wrong, and try to determine if there are any rules-of-thumb or key factors to consider that would help in future decisions regarding avoidance practices. The SEFSC would coordinate not only among its staff but also with those from other fisheries science centers with similar experience.

The SEFSC deploys a wide variety of gear to sample the marine environment during all of their research cruises, such as plankton nets, oceanographic sampling devices, video cameras, and ROVs. These types of gear are not considered to pose any risk to protected species because of their small size, slow deployment speeds, and/or structural details of the gear and are therefore not subject to specific mitigation measures. However, the officer on watch and crew monitor for any unusual circumstances that may arise at a sampling site and use their professional judgment and discretion to avoid any potential risks to protected species during deployment of all research equipment.

Camera arrays are deployed soaks for 30 minutes. Environmental conditions (lighting, sea state, precipitation, fog, etc.) often limit the distance for effective visual monitoring of protected species.

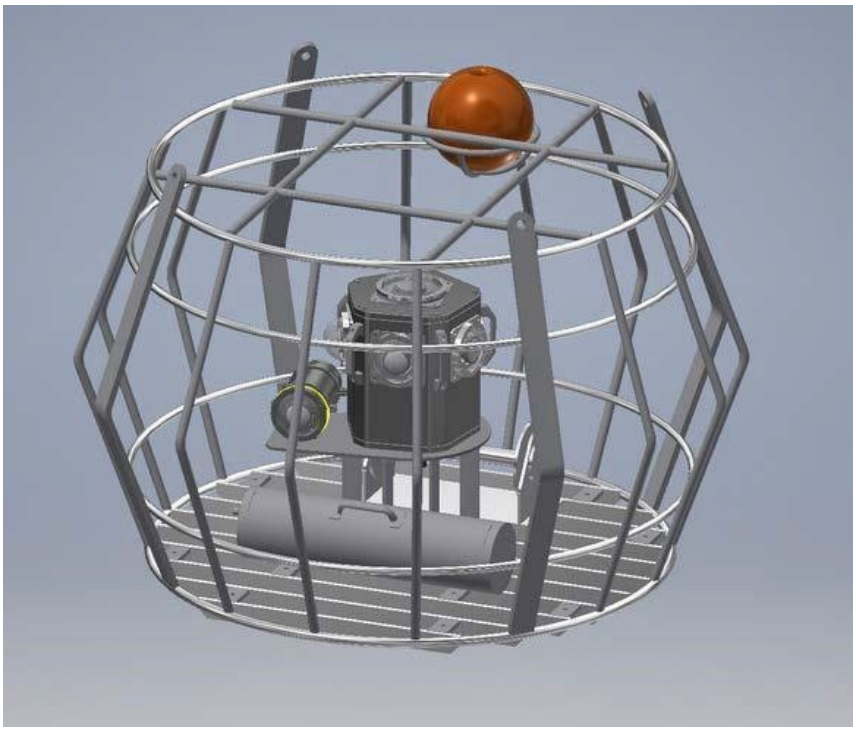

Figure 2. Single Spherical Camera Array (36” tall).

2.5 Dive Operations

Dives are not planned for this project. If the ship requires dive operations, FPC must be notified at least 24 hrs in advance to determine the feasibility and timing of dive operations so the dive will have the least impact on the scientific work.

2.6 Small Boat Operations

Small boat operations are not planned for this project.

2.7 Uncrewed Systems Operations

Uncrewed systems operations are not planned for this project.

2.8 Applicable Restrictions

(A) Conditions That Preclude Normal Operations

1. Weather conditions may constrain some gear deployment/retrieval, but still be suitable for other gear to be safely deployed/retrieved. The Commanding Officer, Field Party Chief, Officer on watch, Chief Boatswain, and Watch Leader will discuss any weather conditions that are deemed unsafe for gear deployment.
2. Hydraulic winch or pot hauler failure

2.9 Energy Efficiency

Energy efficient plans will be discussed during the pre-project with CO, Field Party Chief, and Chief Scientist based on the needs of the survey design.

3. Equipment

3.1 Platform Capabilities

(A) Vessel Core Systems:

1. Platform endurance minimum 10 days
2. Capable of pinpoint gear deployment and retrieval (within 5m)
3. Scientific Computer System (SCS) on Leg 3

(B) Labs/Interior Spaces:

1. Two chest freezers; 1 for bait, 1 for storage of eDNA samples
2. 2x5’ of interior lab space that can be sterilized by science team to process eDNA samples
3. Interior lab space for the setup of a battery charging station (2x4’), and 3 laptop computers for downloading data and setting up equipment for deployment (~2x6’)

(C) Exterior Spaces:

1. Space on the well deck to store additional camera arrays, pelican cases, and additional floats and lines

(D) Handling And Over-The-Side Deployment/Retrieval:

1. Hydrographic winch with sufficient electromechanical cable for CTD casts to 200m. Spare slip rings and a fully functional wire readout.
2. Crane/Hydraulic pot hauler/winch/A-frame for deployment and retrieval of camera arrays
3. One CTD with calibrated sensors
    a. one Digiquartz depth sensor
    b. one SBE 3 Premium temperature sensor
    c. one SBE 4 conductivity sensor (items b. & c. connected w/ TC ducts)
    d. one SBE 43 dissolved oxygen sensor
    e. one SBE 5T pump
    f. one WetStar fluorometer
    g. one transmissometer
    h. one SBE water sampler
4. CTD rosette loaded with six (6) 5L Niskin sampling bottles
    a. firing sequences

(E) Acoustic Suite:

1. ES80 Depth Sounder
2. EK80 Depth Sounder

(F) Other:

1. Access to ship's network via reef fish server

3.2 Scientific Capabilities

1. (3) Spherical/Satellite camera arrays with buoy retrieval system and weights
2. (3) Spherical camera with housings
3. (4) Stereo mounting plates with waterproof camera cables, power/dummy plugs,
4. and mounting hardware
5. (3) Lithium battery housings
6. (8) Lithium batteries
7. (4) Lithium battery chargers
8. (2) Wireless routers
9. (2) Long Ethernet cables
10. (1) Hard wired power supplies
11. (2) Camera download cables
12. Cleaning supplies (wire brushes, electronics cleaner, etc.)
13. (1) Surge protector
14. (1) Electronics tool/crash kit with spare camera parts
15. (2) In-Situ Aqua TROLL 600 Sonde CTDs and download cables
16. (3) Specialized computer systems for stereo data download and chargers
17. External hard drives
18. NAS
19. (3) Large Polyballs
20. (3) Small Polyballs
21. (1/2") Spectra buoy line for deploying (3) spherical arrays to depths between 30 and 200 m
22. squid bait
23. mackerel bait
24. (2) Grappling hooks
25. Back-up eDNA sampler parts
26. (50) Magnesium releases
27. eDNA sample supplies (filters, tubing, etc.)
28. 2 gallons of Ethanol
29. Tool kit for troubleshooting camera systems
30. Backup battery supplies
31. Nitrile gloves
32. Datasheets as required
33. (2) Station list
34. Laptop with GPS puck and ArcGIS Pro installed
35. Memory card with station list and coordinates for vessels Captain

36. eDNA deployment array
37. Barcodes for eDNA samples
38. eDNA pump
39. eDNA sampler (Niskin and firing system)
40. eDNA filtration supplies (tubing, filters, barcodes, etc.)
41. Bleach
42. RO water

4. Hazardous Materials

4.1 Policy and Compliance

Hazardous Materials are required for this project and will be utilized in compliance with current NOAA Policies.

4.2 Inventory

Common Name of Material	Quantity	Notes	Trained Individual	Spill Control
95% ethanol	2 gallons	Will be stored in Chemical Laboratory	TBD	E
Bleach	4 gallons	Will be stored in Chemical Laboratory	TBD	B

4.3 Safety and Spill Response

Product Name	Quantity	Chemicals it is effective against	Amount it can clean up
Universal Spill Clean Up Kit	5-gallon kit	Any chemical spill	5 gallons per kit
Kitty Litter	5-gallon bucket	Any chemical spill	10 gallons per bucket

4.4 Radioactive Materials and X-ray Generating Devices

No Radioactive Isotopes or X-ray Generating Devices are planned for this project.

4.5 Lithium Batteries

Lithium Batteries are required for this project and will be utilized in compliance with current NOAA Policies.

Rechargeable (secondary) lithium batteries are to be used on this survey. Battery packs are >300WH and use LiNiMnCo (NMC) cylindrical cells. All battery packs include a battery management circuit to increase safety. Additionally, all charges utilized are "smart" and include internal microcontroller control.

FPC and science electronics technician are responsible to:

1. Provide a risk management plan to mitigate lithium battery concerns, including:
    a. Packaging. How will system/battery be packaged?

While in-use, batteries will be installed into custom underwater pressure housing, which include an integral pressure limiting mechanism. All battery connectors are polarized and unable to be connected in reverse orientation.

    b. Storage facilities. How will system/battery be stored from delivery to disposal?

While not in-use batteries will be stored in a designated location and enclosed in a fireproof battery safety bag. Batteries will also be charged within the fireproof bag. Batteries will be removed from charge, when cycle completion is indicated by charger.

    c. Transportation methods

Batteries will be transported either within the end-use equipment or within a fireproof bag. Fireproof bag may be transported separately or within a rigid case (e.g. pelican).

    d. Operational use scenario (Include a complete description of how the system/batteries will be handled and used; what platform(s) will carry or deploy the system; location of recharging operations; recovery operations; number of units anticipated to be used; and, where appropriate, the sequence of events before system use/activation/deployment, etc.).

The battery operated systems will be attached to, and deployed on, the camera array. There will be 3-4 complete systems, functioning as a primary and a backup. Storage and charging will be in the Dry Lab, or in another location designated by the FPC. The system will be removed from the camera array for charging, or prolonged periods of non-use.

    e. Disposal information

Battery disposal is not expected while at sea. As long as battery is stable, store in fireproof bag until dock-side. Battery will then be returned to the lab for analysis and appropriate disposal.

2. Provide scientific party and Ship's Command with relevant SOPs related to equipment containing lithium batteries.

3. Include Safety Data Sheets and/or Technical Data Sheets in the hazardous materials inventory that is transmitted to the ship.

4. Notify ship's Command/ECO when equipment arrives on-scene.

5. Once aboard, familiarize science party with Copper powder (class D) fire extinguishers for rapid response to a lithium battery fire.

5. Disposition of Data and Reports

Disposition of data gathered aboard NOAA ships must conform to all Federal, Agency, Chief Scientist's LO, and OMAO data governance directives, policies and stewardship (Appendices A and B). Systems that produce data continually, periodically, and during specific operations described in Section 2.4, and equipment listed in Sections 3.1 and 3.2, will have accompanying entries in the Project Data Management plan. The data will be classified as either OMAO data or Program Data and roles and responsibilities for acquisition, stewardship, and submission to archive will be determined during pre-project communications and meetings. OMAO expects the Chief Scientist, Program, and Lab Directors to abide by their LO Data Management Plan and procedural directive. By completing this section all parties agree to OMAO Policy 1102-38 Shipboard Data Acquisition and Stewardship.

5.1 Data Acquisitions Plan

(A) A Data Management Plan (DMP) is in place per the NOAA Administrative Order (NAO) 121-15-B, Management of NOAA's Data and Information.

Appendix A Operational Standards

1. Meetings, Vessel Familiarization, and Project Evaluations

1.1 Pre-Project Meeting

The Chief Scientist and Commanding Officer (CO) will meet with 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 must 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.

1.2 Vessel Familiarization Meeting

The CO is responsible for ensuring scientific personnel are familiarized with applicable sections of the standing orders and ship protocols (e.g., meals, watches, etiquette, drills, etc.). A ship familiarization meeting must be conducted in the first 24 hours of the project's start and is normally presented by the ship's Operations Officer. All embarked personnel are expected to participate in drills, and the timing of drills will be determined by the CO or designated delegate. See OMAO Procedure 1102-20 - General Rules and Minimum Requirements for Embarked Personnel and OMAO Procedure 1201-08 - NOAA Ship Familiarization.

1.3 Meals and Berthing

(A) The ship will provide meals for the scientists listed above. Meals will be served three (3) times daily beginning one (1) hour before scheduled departure, extending throughout the project, and ending two (2) 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. Send special dietary requirements for scientific participants to the ship's command no less than two (2 weeks) before the start of a project.

(B) Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Chief Scientist. The Chief Scientist and CO will work together on a detailed berthing plan to accommodate the gender mix of the scientific party taking into consideration the current makeup of the ship's complement per OMAO Procedure 1102-03 - Vessel Quarters. 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 that were issued. Unless prior arrangements are made, the science party may move aboard the night before scheduled departure and must move off the ship the day after scheduled arrival (at the end of project). The Chief Scientist/Principal Investigator 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 before departing the ship.

(C) 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 or Principal Investigator 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.

1.4 Shipboard Safety

(A) All embarked personnel are required to fully support and comply with NAO 202-1106: NOAA Sexual Assault and Sexual Harassment Prevention and Response Policy. The at-sea working/living environment is particularly sensitive and it is incumbent upon all personnel to uphold a positive and professional workplace dynamic in order to successfully accomplish cruise objectives.

(B) All persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations administered by the CO. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO Procedure 1102-20 General Rules and Minimum Requirements for Embarked Personnel, which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

(C) All embarked personnel are required to fully support and comply with all drills conducted aboard NOAA vessels, in compliance with SOLAS regulations. The CO or designated delegate shall determine the nature and timing of the drill, which can occur at any time of day within any space aboard the vessel. All embarked personnel are to participate in the drills as assigned by the Station Bill, and all operations aboard the vessel that are impacted by the drill shall be halted until the completion of the drill.

(D) Surge protectors, power strips, and Uninterrupted Power Sources (UPS) must be approved for marine/shipboard use, removed from service if hot to the touch, regularly inspected for damage or wear, limited to one surge protector per duplex receptacle (i.e., “outlet”), and never daisy chained. The equipment must meet Military Performance Specification MIL-PRF-32167A (Transient Voltage Surge Suppressors), which incorporates American Society for Testing and Materials ASTM F1507 (Standard Specifications for Surge Suppressors for Shipboard Use) and Underwriters Laboratories UL 1449 (Safety Standards for Surge Protective Devices).

(E) 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.

(F) Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals, clogs, or crocs) 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. See OMAO Procedure 1102-20 or SSI equivalent.

1.5 Post-Project Meeting

The CO 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 shortcomings of the project. Concerns regarding safety, efficiency, and suggestions for future improvements are discussed and mitigations for future projects will be documented for future use. This meeting includes the ship's officers, applicable crew, the Chief Scientist, and members of the scientific party and is normally arranged by the ship's Operations Officer and Chief Scientist.

1.6 Project Evaluation Report

Within 7 days of the completion of the project, the Chief Scientist or Principal Investigator completes a Customer Satisfaction Survey, as appropriate. The form is available at https://sites.google.com/a/noaa.gov/omao-intranet-dev/operations/marine/customer-satisfaction-survey and provides a "Submit" button at the end of the form. It is also located at Marine Operations Customer Satisfaction Survey. Submitted form data is deposited into a spreadsheet used by OMAO management to analyze the information. Though the complete form is not shared with the ships, specific concerns and praises are followed up on while not divulging the identity of the evaluator.

2. Shoreside Support

2.1 Medical Forms and Emergency Contacts

(A) The Chief Scientist must ensure all scientists have created/updated their eSAIL account with their emergency contact information. This must be completed seven (7) days prior to the departure date. An emergency contact is required to include: valid phone number, address, and email (if applicable). US based phone numbers are preferred, if a foreign number is used we require a US based alternate be listed as well.
Link for eSAIL: esail.omao.noaa.gov

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 or Principal Investigator 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. NOAA Form (NF) 57-10-01 - Health Services Questionnaire (NHSQ) must be completed in advance by each participating scientist.

NHSQs must be submitted every 2 years for individuals under the age of 50 and every 1 year for ages 50 and above. NHSQs must be accompanied by NOAA Form (NF) 57-10-02 - Tuberculosis Screening Document in compliance with OMAO Policy 1008 (Tuberculosis Protection Program).

The completed forms should be sent to Marine Health Services at the applicable Marine Operations Center. Before clearance to sail can be granted, all participating scientists must submit the NHSQ and Tuberculosis Screening Document to Marine Medical Branch no later than 4 weeks before the start of the project to allow time for the participant to obtain and submit additional information should health services require it. Please contact Marine Medical Branch with any questions regarding eligibility or completion of either form.

The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

The participant can mail, fax, or email the forms to the contact information below. Participants should take precautions to protect their Personally Identifiable Information (PII) and medical information and ensure all correspondence adheres to DOC guidance. https://www.osec.doc.gov/opog/privacy/pii_bii.html.

(B) Contact information:

Marine Health Services
Marine Operations Center – Atlantic
439 W. York Street
Norfolk, VA 23510
Phone 757-441-6320
Fax 757-441-3760
Email MOA.Health.Services@noaa.gov

(C) Before 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 Phone number.

3. Communications and Information Technology (IT)

3.1 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 email and the Very Small Aperture Terminal (VSAT) link. If increased bandwidth is being considered, program accounting is required and it must be arranged through the CO at least 30 days in advance.

3.2 IT Security

(A) IT Security Awareness Training:

(1) Guest scientists must complete NOAA's IT Security Awareness Course before using or accessing any NOAA ship science computer or network resources. It is recommended that guests complete the course 3 days before embarking. Guest scientists must review and sign the Rules of Behaviour (ROB)

(2) For Foreign Nationals see Section 4

(B) Any computer that will be hooked into the ship's network must meet the following requirements, at a minimum:

(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.

(4) No Kaspersky products are allowed

(5) Adhere to all licenses, copyright laws, contracts, and other restricted or proprietary information.

(6) Utilize all security measures that are in place to protect the confidentiality, integrity, and availability of information and systems.

(7) Refrain from using NOAA OMAO Public Network information resources for inappropriate activities.

(8) Do not visit inappropriate sites while using NOAA OMAO Public Network. Inappropriate sites can be but are not limited to:

(a) Sexually Explicit Content (including nudity, pornography, and other obscene materials)
(b) Websites With Extreme Political Views
(c) Hate Websites
(d) Websites That Promote Drug Use or Terrorist Activities
(e) Online Gambling (including ads with adult-only content)
(f) Web Sharing Websites (downloading illegal content, BitTorrent, Webtorrent, uTorrent)

(C) Computer Operating Systems that the support vendor has identified as reaching “End of Life” for support will not be allowed on the shipboard network.

(D) At any time, NOAA/OMAO may monitor and/or audit user activity and/or network traffic. In addition, NOAA/OMAO may access your system and disclose information obtained through audits to third parties, including law enforcement authorities.

3.3 Disposition of Data and Reports

Data Classifications:

(A) OMAO Data

(1) Since OMAO has limited tools and bandwidth for moving large datasets, OMAO commits to acquisition and archive responsibility for:

(a) Scientific Computer System (SCS) data and metadata

(b) Conductivity Temperature Depth (CTD profile) data

(c) Acoustic Doppler Current Profile (ADCP) data

(d) Ship Daily Activity Tracker (SDAT) Cruise level metadata

(2) On a project by project basis, if special submission capabilities are made available, the CO may commit to stewardship of other datasets.

(B) Program Data

(1) Systems attached to and maintained by the ship but will be run by the science party

or Survey department such as bathymetric multibeam sonar, water column single, split beam, multibeam sonar, video and other digital imagery.

(2) Systems the Scientific Party brings aboard

(3) SCS, CTD, and ADCP will remain part of the Chief Scientist's project data package as well as being submitted to the archive in near real time by ship's personnel.

(C) Communication and Documentation

(1) Data Management Plans are reviewed at the Pre-Project Meeting (Section 7).

(2) Instrument, system, geographic, and operational interference are discussed and prioritized during pre-cruise communications and the Pre-Project Meeting. This ensures that every data acquisition system can operate to satisfy commitments to initiatives such as Seabed 2030 and OMAO's general guidance to acquire the most and best data possible, while not interfering with the project's primary objectives.

(D) Data Transmittal and Storage Media

(1) Before departure, bandwidth, storage capacity, and MACC (Marine and Aviation Cyber Center) media policies will guide strategies for stewardship of data collected during the project and the manner that the Chief Scientist's data package and other large data files will be transmitted to shore or carried from the ship at the end of the project.

(2) The ship CO completes data transmittal or other chain of custody documentation and a copy of each is retained on the ship and will accompany the data media.

(E) Acknowledgment and Acceptance

(1) Cover page signatures acknowledge each parties acceptance of the data submission responsibilities outlined in this section.

3.4 Responsibilities

(A) OMAO Data

(1) OMAO owned shipboard systems will be maintained, calibrated at prescribed intervals, in good working order, and tested before departure. Sounders and systems that require patch test or sphere calibration may require project time if the ship does not have the means to conduct calibrations before the beginning of the project

(2) System (SCS) data, Conductivity Temperature Depth (CTD profile) data, Acoustic Doppler Current Profile (ADCP) data will be submitted in near real time or at end-of-project through existing and developing utilities.

(3) Metadata for each data type will be complete, up-to-date, and accurate.

(4) SDAT ship and cruise level metadata will be accurate and updated every 2 to 3 days.

(5) On a project by project basis, if special submission capabilities are made available, the ship's CO may commit to stewardship of other datasets.

(B) Program Data

(1) All non-OMAO data collected is stewarded and delivered to the lab's data managers for prompt packaging and submission to National Centers for Environmental Information according to their LO's directives.

(2) Holds, or embargoes may be placed on sensitive data for up to 1 year.

(C) Communication and Documentation

(1) Data Management Plans are reviewed at the Pre-Project Meeting.

(2) Instrument, system, geographic, and operational interference are discussed and prioritized during pre-cruise communications and the Pre-Project Meeting. This ensures that every data acquisition system can operate to satisfy commitments to initiatives such as Seabed 2030 and OMAO's general guidance (including OMAO Environmental Data Management Directive and ship specific instructions) to acquire the most and best data possible, while not interfering with the project's primary objectives.

(D) Data Transmittal and Storage Media

(1) Before departure, bandwidth, storage capacity, and MACC (Marine and Aviation Cyber Center) media policies will guide strategies for stewardship of data collected during the project and the manner that the Chief Scientist's data package and other large data files will be transmitted to shore or carried from the ship at the end of the project.

(2) The ship CO completes data transmittal or other chain of custody documentation and a copy of each is retained on the ship and will accompany the data media.

(A) Acknowledgment and Acceptance

(1) Signatures on this document acknowledge each parties acceptance of the data submission responsibilities outlined in this section.

3.5 Shipboard Data Acquisition and Stewardship Procedures

(A) Chief Scientist/Principal Investigator – Draft Project Instructions, Collect Data, Define Metadata, and Submit Processed Data

The CS/PI shall:

(1) Include a section entitled "Disposition of Data and Reports" in the Project Instructions.

(a) This section shall state that the CS/PI is responsible for the collection, management, and archiving of all project-specific data in accordance with NOAA's Administrative Order (NAO) 212-15 - Management of Environmental Data and Information.

(2) Clearly identify in the "Disposition of Data and Reports" the data sets generated during the project and classifications of data as either OMAO Data or Program Data. OMAO is required to archive OMAO data and the Program is required to archive

Program Data. Programs will archive their data following their own internal procedures.

(3) Clearly identify in the “Disposition of Data and Reports” Section 5 of the Project Instructions all data that NOAA will publicly release and all data that NOAA will not publicly release along with responsible parties for each data set.

(4) Assign an indefinite date for public release by the proper authorities for data having homeland/national security, cultural heritage, or protected resources.

(5) Document in the Project Instructions the specific justification for non-release of data, as well as the authority responsible for the non-release decision.

(6) The CS/PI shall work with shipboard personnel to collect data of the highest possible quality and to create project metadata. Unless otherwise excepted, the project data and metadata shall include a date for public release of data not to exceed 1 year after collection.

(7) As soon as practical and not to exceed 15 days following the completion of the project, the CS/PI shall obtain a copy of raw data collected with OMAO-owned instruments.

(8) The CS/PI shall provide all project-specific processed data with corresponding project metadata to a data archive within 1 year of collection. In addition, the CS/PI shall submit, when available, data event logs, Project Instructions, survey reports, and other high-utility documentation to this archive.

(9) Upon receiving evidence (preferably an accession number or a digital object identifier) that the project-specific processed data has been properly archived following NOAA guidelines with metadata, the CS/PI’s responsibility for archival is complete.

(10) The CS/PI shall be responsible for all data generated from instruments not owned by OMAO. Future opportunities to participate in data collection activities, as a CS/PI aboard a NOAA ship, may require verification from a data archive that project-specific processed data with project metadata were delivered within 1 year of collection.

(B) Commanding Officer/Master - Submit Raw Data to NCEI and Data Disposition

(1) Depending on connectivity, and preferably not to exceed 60 days following the completion of each cruise/project, the CO shall ensure all OMAO-collected data, corresponding project metadata, and Project Instructions are submitted to NCEI.

(a) These data include all raw data collected with OMAO-owned and scientific party-provided instruments that OMAO is responsible for per the Project Instructions, as well as any processed data available at the time of submission.

(2) The CO or the CO's designee shall notify NCEI electronically when the data are ready for transfer. This procedure does not relieve the CS/PI from their responsibility to provide all project-specific data and project metadata to a data archive within 1 year of data collection.

(3) The CO's responsibility for archiving the data is complete upon receiving confirmation from NCEI that raw data and project metadata are archived (preferably an accession number or a digital object identifier).

(4) Policy for implementing Appendix B Section 3.5 is outlined in OMAO Policy 1102-38 Shipboard Data Acquisition and Stewardship.

(5) For each project, the CO shall ensure that all OMAO-owned instruments are acquiring high-quality data. OMAO instruments should be acquiring data at all times unless it interferes with the specific project, violates rules/laws/policy, or is due to another reason specified in the SDAL Ship Operations Log for that sea day.

(C) OMAO Environmental Data Acquisition Manager

(1) The EDAM plans, directs, and implements policies and procedures to standardize the acquisition, safeguarding, and submission of high quality environmental, water column, and bathymetric data by NOAA Ships.

(2) The EDAM will validate and monitor publication of the appropriate metadata in the NOAA archive, ensure the data is publicly available by the agreed date of public release, and assess current digital inventories of all published OMAO owned data sets.

(3) The EDAM will ensure proper data stewardship and implementation of the terms of the submission agreements, address policy requirements, and adopt procedural directives throughout the data lifecycle.

(D) NCEI Data Manager - Archive and Publish Data at NCEI

(1) After confirming that raw data and project metadata received from the CO or the CO's designee are valid, a DM will archive them at NCEI and then return confirmation (preferably an accession number or a digital object identifier) to the CO and/or the CO's designee and the OMAO Data Manager.

(2) A DM will validate and publish metadata, archive appropriate data in accordance with data archival best practices, make the data publicly available by the agreed date of public release, safeguard non-public, restricted data (i.e., data with homeland/national security, cultural heritage, or protected resources value), and maintain current digital inventories of all public data.

(3) NCEI will make publicly available all unrestricted raw and processed data (i.e., all data with no homeland/national security, cultural heritage, or protected resources value) no sooner than the agreed date of public release and not later than 1 year after collection. Ships should account for NCEI's time to receive and process the data (~90 days) in this 1 year.

(4) OMAO and NCEI will describe the technical details of implementing Section 5 in their Submission Agreements and appendices to this document. The DM will ensure to implement the terms of the submission agreements.

4. Foreign Nationals

4.1 Foreign National Guests Access to OMAO Facilities and Platforms

All foreign national (FN) access to the vessel shall be in accordance with NAO 207-12: Technology Controls and Foreign National Access. All LO personnel will use the Foreign National Registration System (FNRS) to submit requests for access to NOAA facilities and ships. FNRS does not route through/to OMAO, so for access to OMAO facilities and platforms sponsors must route an OMAO Request for Foreign National Access to OMAO Facilities and Platforms form in order to provide information on access to OMAO Information Technology systems. The Departmental Sponsor (DSN) is responsible for obtaining clearances, export licenses as required, and providing escorts for FN(s). DSN should consult with their LO Controlled Technology Coordinator if assistance is required during the process.

When FN access is requested, the DSN shall also request access to all NOAA, OMAO and Federal Facilities and platforms their FN may come in contact with, enter or pass through while gaining access to the requested destination. This includes, but is not limited to NOAA Marine Operations Centers, NOAA port offices, NOAA ships, USCG Bases, Navy Bases, and commercial ports.

Full compliance with NAO 207-12 is required.

(A) Responsibilities of the Chief Scientist

(1) Provide the facility or platform CO with the email generated by the Servicing Security

Office granting approval. This email will identify the guest's DSN and Designated Escorts (if any) and will serve as evidence that the requirements of NAO 207-12 have been complied with.

(2) Escorts – The DSN 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 DSN or identified escorts complete the briefing on Espionage Indicators briefing (NAO 207-12) at least annually or as required by the Servicing Security Office.

(4) Export Control - Ensure that approved controls are in place for any controlled technologies subject to Export Administration Regulations (EAR) that are present on or will be brought aboard the ship.

(5) The CO or designated official and the Chief Scientist will keep each other informed of controlled technologies belonging to the ship and to the scientific party. They shall work together to implement any access controls necessary to ensure no unlicensed export occurs.

(B) Responsibilities of the Commanding Officer

(1) Ensure only those FN(s) with DOC/OSY clearance are granted access.

(2) Access control shall be IAW Bureau of Industry and Security country guidance.

(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 Servicing Security Office email granting approval for the FN(s) 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) Ensure all OMAO personnel onboard receive the Espionage Indicators briefing (NAO 207-12) as required for FN visitors or guests.

(7) Controlled Technology shall be protected IAW the Controlled technology Plan

(C) Responsibilities of the Departmental Sponsor

(1) Export Control - The DSN is responsible for obtaining any required export licenses and complying with any conditions of those licenses prior to the FN being provided access to controlled technology regardless of the technology's ownership.

(2) The DSN, if not sailing for the project, shall assign an escort from the on-board scientific party. The identified escort will be responsible for the FN while on board. The identified individual must be a U.S. citizen and a NOAA or DOC employee and have completed and submitted training to LO CTC.

(3) Ensure completion and submission of NAO 207-12 (Certification of Conditions and Responsibilities for a Foreign National) within 3 days of the FN's arrival onboard the ship.

5. Hazardous Materials

5.1 Policy and Compliance

The Chief Scientist is responsible for complying with OMAO Procedure 0701-22 Visiting Scientists' Chemicals and Related Hazardous Materials (Mission HAZMAT). 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, Safety Data Sheets (SDS), appropriate spill cleanup materials (i.e., 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.

(A) Per OMAO Procedure 0701-22, the scientific party will include with their Project Instructions and provide the CO of the respective ship 30 days before departure:

(1) List of chemicals by name with anticipated quantity;

(2) List of spill response materials, including neutralizing agents, buffers, and absorbents;

(3) Chemical safety and spill response procedures, such as excerpts of the program's Chemical Hygiene Plan or SOPs relevant for shipboard laboratories; and

(4) For bulk quantities of chemicals in excess of 50 gallons total or in containers larger than 10 gallons each, notify the ship's Operations Officer regarding quantity, packaging, and chemical to verify safe stowage is available.

(B) During embarkation and before loading hazardous materials aboard the vessel, the scientific party will provide the CO or their designee:

(1) An inventory list (NF 57-07-11 or similar) showing actual amount of hazardous material to be brought aboard;

(2) An SDS for each material;

(3) 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; and

(4) Confirmation that chemical safety and spill response procedures were brought aboard.

(C) During loading, the scientific parties will work with the ship's Operations Officer and the ECO to track mission hazmat brought aboard, using NOAA Form 57-07-11 or similar. SDS will be made available to the ship's complement, in compliance with Hazard Communication Laws.

(D) Underway, the 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.

(E) Upon departure from the ship, the removal of mission hazmat and related products must be verified and the Chief Scientist and Operations Officer or designee must initial the Mission HAZMAT Log (NF 57-07-11). A closed out copy of the Mission Hazmat Log will be provided to the scientific party upon request.

5.2 Chemical safety and spill response procedures

(A) ACID [A]

(1) Wear appropriate protective equipment and clothing during clean-up. Keep upwind. Keep out of low areas.

(2) Ventilate closed spaces before entering them.

(3) Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

(4) Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

(5) Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

(6) Never return spills in original containers for re-use.

(7) Neutralize spill area and washings with soda ash or lime. Collect in a non-combustible container for prompt disposal.

(8) J. T. Baker NEUTRASORB® acid neutralizers are recommended for spills of this product.

(B) Mercury [M]

(1) Spills: Pick up and place in a suitable container for reclamation or disposal in a method that does not generate dust. Sprinkle area with sulfur or calcium polysulfide to suppress mercury. Use Mercury Spill Kit if need be.

(C) Formalin/Formaldehyde [F]

(1) Ventilate area of leak or spill. Remove all sources of ignition.

(2) Wear appropriate personal protective equipment.

(3) Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible.

(4) Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container.

(5) Do not use combustible materials, such as sawdust.

5.3 Radioactive Materials and X-ray Generating Devices

The Chief Scientist is responsible for complying with OMAO Procedure 0701-10 Radioactive Material and X-ray Generating Device Use Aboard NOAA Ships. Documentation regarding those requirements is provided by the Chief of Operations, Marine Operations, upon request. Use of radioactive isotopes in areas under the jurisdiction of other countries may require additional permits from the host countries. Port calls in other countries, while the ship is carrying radioactive isotopes, may also require special notification, compliance with host country regulations, and consent from the host.

(A) Radioactive Materials (RAM)

The Chief Scientist submits, at least three months in advance of a domestic project and eight months in advance of a foreign project start date, required documentation to MOC-CO, including:

(1) NF 57-07-02 Request to use Radioactive Material Aboard a NOAA Ship.

(2) Draft Project Instructions (only one copy required per project).

(3) Licenses: Nuclear Regulatory Commission (NRC) Materials License (NRC Form 374) or State license with Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, or Offshore Waters (NRC Form 241).

(4) Experiment and usage protocols, including spill clean-up and accidental exposure procedures.

(5) If applicable, copies of any applications submitted and/or consent obtained from other countries.

(B) X-ray Generating Devices (XGD)

The Chief Scientist submits, at least three months in advance of a domestic or foreign project start date, required documentation to MOC-CO, including:

(1) NF 57-07-19 Request to use X-ray Generating Device (XGD) Aboard a NOAA Ship.

(2) Draft Project Instructions (only one copy required per project).

(3) Experiment or usage protocol, including all proposed use parameters.

(4) A current (within 1 year of the day the vessel is to leave port) performance test report for each device

(5) Manufacturer specification sheet.

(6) If applicable, copies of any applications submitted and/or consent obtained from other countries.

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

5.4 Lithium Batteries

Lithium batteries include:

- Lithium batteries,
- Lithium cells,
- Lithium battery-powered, or associated, systems or equipment, and
- Batteries that utilize lithium metal, alloys, or compounds.

Per OMAO Procedure 1102-04 Lithium Battery Safety Procedures, the Chief Scientist is responsible for:

(A) Providing a risk management plan to mitigate lithium battery concerns, including:

(1) Packaging. How will the system/battery be packaged?

(2) Storage facilities. How will the system/battery be stored from delivery to disposal?

(3) Transportation methods

(4) Operational use scenario (Include a complete description of how the system/batteries will be handled and used; what platform(s) will carry or deploy the system; location of recharging operations; recovery operations; number of units anticipated to be used; and, where appropriate, the sequence of events before system use/activation/deployment, etc.).

(5) Disposal information

(B) Provide scientific party and Ship’s Command with relevant SOPs related to equipment containing lithium batteries.

(C) Include Safety Data Sheets and/or Technical Data Sheets in the hazardous materials inventory that is transmitted to the ship.

(D) Notify the ship's Command/ECO when equipment arrives on-scene.

Appendix B References

Federal Regulations and Standards

- ASTM F1507 American Society for Testing and Materials - Standard Specifications for Surge Suppressors for Shipboard Use
- Export Administration Regulations (EAR)
- MIL-PRF-32167A Military Performance Specification - Transient Voltage Surge Suppressors
- UL 1449 Underwriters Laboratories - Safety Standards for Surge Protective Devices

NOAA Administrative Orders

- NAO 121-15-B Management of NOAA's Data and Information
- NAO 202-1106 NOAA Sexual Assault and Sexual Harassment Prevention and Response Policy
- NAO 207-12 Technology Controls and Foreign National Access
- NAO 212-15 Management of Environmental Data and Information
    - NOAA Data Documentation Procedural Directive
    - NOAA Data Management Planning Procedural Directive (preparation of DMPs)
- NAO 216-101 Ocean Data Acquisitions

OMAO Policies and Procedures

- OMAO Policy 1008 Tuberculosis Protection Program
- OMAO Policy 1102-38 Shipboard Data Acquisition and Stewardship
- OMAO Procedure 0701-10 Radioactive Material and X-ray Generating Device Use aboard NOAA Ships
- OMAO Procedure 0701-22 Visiting Scientists' Chemicals and Related Hazardous Materials (Mission HAZMAT)
- OMAO Procedure 1102-03 Vessel Quarters
- OMAO Procedure 1102-04 Lithium Battery Safety Procedures
- OMAO Procedure 1102-20 General Rules and Minimum Requirements for Embarked Personnel
- OMAO Procedure 1201-080 NOAA Ship Familiarization

Appendix C Forms

- NOAA Form 57-07-02 Request to Use Radioactive Material Aboard a NOAA Ship
- NOAA Form 57-07-19 Request to Use X-ray Generating Devices (XGD) Aboard a NOAA Ship
- NOAA Form 57-10-02 Tuberculosis Screening Document
- NOAA Form 57-10-01 Health Services Questionnaire (NHSQ)
- NRC Form 374 Nuclear Regulatory Commission Materials License
- NRC Form 241 Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, or Offshore Waters
- Request for Foreign National Access to OMAO Facilities and Platform

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