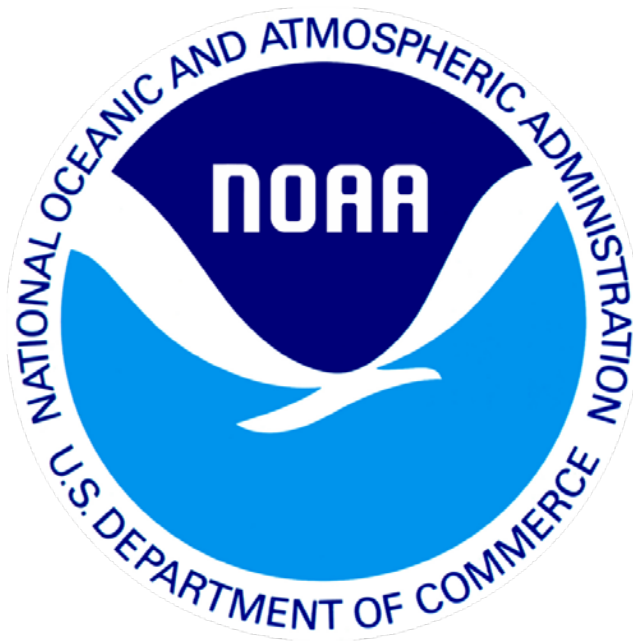


# **The NOAA Small Boat Standards and Procedures Manual**



**4.1 Edition**

April 30, 2018

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## CHANGE MEMO



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
OFFICE OF MARINE AND AVIATION OPERATIONS  
Silver Spring, Maryland 20910-3282

APR 30 2018

MEMORANDUM FOR: Rear Admiral Michael J. Silah, NOAA  
Director, NOAA Corps and  
Office of Marine and Aviation Operations

FROM: Dennis Donahue  
Chair, Small Boat Safety Board

SUBJECT: Request to Approve Changes to NOAA Small Boat Standard and  
Procedure Manual 4<sup>th</sup> Edition

### ACTION-FORCING EVENT:

The NOAA Small Boat Safety Board requests concurrence and approval of the following changes to the NOAA Small Boat Standard and Procedure Manual 4th Edition issued July 14, 2017. Once approved, these changes would be issued as Edition 4.1 and distributed to the NOAA Small Boat community.

### ANALYSIS:

#### **Section 7 - Safe Manning and Watch Standing Requirements**

- 7.02.d - Length of Operational Day
- New subsection "Duration of Operations."
  - Removed conflicting terms and ambiguity.

*Rationale:* Changes reinforce priority guidance to avoid operator fatigue.

#### 7.05 - Watch Standing Requirements

- Changed "Watch Standing Requirements" section title to "Underway Requirements."
- Added Subsection "a. Daily Missions" and Subsection "b. 24 Hour Operations."

*Rationale:* The original wording was confusing. Separating the two modes of operation provides clarity to requirements.

#### **Section 10 - Lifesaving Equipment**

- 10.01.d – Table 4 – Operational Matrix for Class A, I, and II Small Boats
- Changed language to allow for SBP/SBSB to review and approve life raft make and models in addition to those under USCG purview.



*Rationale:* Restricting the approval to the USCG, limited life raft choices and increased the size and weight to the point of concern for smaller boats.

**Section 11 - Emergency Readiness**

11.05. c – Frequency of drills

- Changed Table 1 frequency requirements to apply only to Class III and SRVs.

*Rationale:* It is unrealistic to mandate Class A's, I's and II's, with seasonal fieldwork, to perform quarterly drills. These operations are adequately addressed in the Section and do not require a prescribed drill frequency.

**Section 17 - Accident and Damage Reporting**

17.03 - Notification Chain and Timelines

- Changed accident and damage reporting procedures to better align with NOAA SECO requirements and utilizes NOAA SECO reporting mechanism for all events.

*Rationale:* This establishes a singular mechanism for reporting all near miss, damage, and injury events. Reports will be routed through NOAA SECO and forwarded to the SBSB for review and action.

RECOMMENDATION:


The NOAA Small Boat Safety Board recommends you approve the changes as noted above.

APPROVAL:

Concur X

Don't Concur \_\_\_\_\_

Let's discuss \_\_\_\_\_

  
Rear Admiral Michael J. Silah, NOAA  
Director, Office of Marine and Aviation Operations


## ISSUANCE MEMO



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
OFFICE OF MARINE AND AVIATION OPERATIONS  
Silver Spring, Maryland 20910

JUL 14 2017

MEMORANDUM FOR: Distribution

FROM:  Rear Admiral David A. Score, NOAA  
Director, NOAA Corps and  
Office of Marine and Aviation Operations

SUBJECT: NOAA Small Boat Standards and Procedures Manual, 4th Edition

As authorized in NOAA Administrative Order (NAO) 209-125, NOAA Small Boat Program, I hereby issue the NOAA Small Boat Standards and Procedures Manual, 4th Edition (Manual). A six month phase-in timeline for compliance with newly updated requirements is allotted, from the date this memo is signed.

The Manual augments and supplements the policies, procedures, and guidelines in the Small Boat Program NAO. It applies to all individuals and programs involved with NOAA's small boats and have the same force, effect, and authority as the NAO itself. The Manual will be maintained by the Small Boat Safety Board, which has representation from organizational components across NOAA. An electronic edition of the Manual will be available at the link to the Small Boat Program found on the Office of Marine and Aviation Operations webpage at <https://www.oma.noaa.gov/learn/small-boat-program>.

The Chairman of the NOAA Small Boat Safety Board is hereby directed to disseminate the Manual within the NOAA small boat community.

Distribution:  
UNSEC  
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NMFS AA  
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NOAA WFMO  
NOAA GC  
NOAA SECO  
OMAO SECD  
OMAO MO



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**RECORD OF CHANGES****4.1 Edition**

<b>SECTION</b>	<b>DETAIL</b>
7	<ul style="list-style-type: none"> <li>• New subsection “Duration of Operations”</li> <li>• Removed conflicting terms and ambiguity</li> <li>• Changed “Watch Standing Requirements” section title to “Underway Requirements”</li> <li>• Added Subsection “a. Daily Missions” and Subsection “b. 24 Hour Operations”</li> </ul>
10	<ul style="list-style-type: none"> <li>• Changed language to allow for SBP/SBSB to review and approve life raft make and models in addition to those under USCG purview</li> </ul>
11	<ul style="list-style-type: none"> <li>• Changed Table 1 frequency requirements to apply only to Class III and SRVs</li> </ul>
17	<ul style="list-style-type: none"> <li>• Changed accident and damage reporting procedures to better align with NOAA SECO requirements and utilizes NOAA SECO reporting mechanism for all events</li> </ul>

**4<sup>th</sup> Edition**

<b>SECTION</b>	<b>DETAIL</b>
All	Renumbered sections and page numbers, revised content and references to appropriate sections and updated appendices
1	<ul style="list-style-type: none"> <li>• Outlined three categories of small boat ownership &amp; operation</li> </ul>
2	<ul style="list-style-type: none"> <li>• Remove passenger definition</li> <li>• Added VPC roles and responsibilities</li> <li>• Elaborated VOC roles and responsibilities</li> </ul>
3	<ul style="list-style-type: none"> <li>• Added minimum age and requirements</li> <li>• Added foreign nationals and controlled technologies</li> <li>• Added Sexual Harassment definition</li> <li>• Added medical and fitness considerations</li> <li>• Added waivers</li> </ul>
4	<ul style="list-style-type: none"> <li>• Added definitions of Active and Inactive small boats</li> </ul>
5	<ul style="list-style-type: none"> <li>• Changed how risk assessment is accomplished (Baseline, Mission and GAR)</li> </ul>
6	<ul style="list-style-type: none"> <li>• 3 year refresher for PQS</li> <li>• Crewmember PQS requirements and documentation based on size</li> <li>• Added advanced and continuing education</li> </ul>

7	<ul style="list-style-type: none"> <li>• Added watch standing requirements to this section</li> </ul>
8	<ul style="list-style-type: none"> <li>• New POC notification prior to departure</li> <li>• Overdue notification workflow changed</li> </ul>
9	New Section - STABILITY, DESIGN AND CONSTRUCTION CONSIDERATIONS
10	New Section - LIFESAVING EQUIPMENT AND SMALL BOAT EQUIPMENT REQUIREMENTS
11	New Section - EMERGENCY READINESS
12	<ul style="list-style-type: none"> <li>• Added process for pre-acquisition</li> </ul>
13	<ul style="list-style-type: none"> <li>• Shifted prescriptive - visual identification general guidance</li> <li>• Allow different colors</li> </ul>
14	<ul style="list-style-type: none"> <li>• 45 day window extended to A,I, II</li> <li>• Added authorized deviations</li> </ul>
15	<ul style="list-style-type: none"> <li>• Environmental compliance new requirements</li> </ul>
16	New Section - MAINTENANCE PLAN
17	<ul style="list-style-type: none"> <li>• New tables for accident and damage reporting</li> </ul>
18	New Section - WEIGHT LIFTING EQUIPMENT CERTIFICATION AND MAINTENANCE
19	<ul style="list-style-type: none"> <li>• Added rigging log</li> </ul>

## ACRONYMS

AA: Assistant Administrator  
AED: Automatic External Defibrillators  
ASBE: Annual Small Boat Evaluation  
COTR: Contracting Officer's Technical Representative  
CPR: Cardiopulmonary Resuscitation  
GAR: Green-Amber-Red  
LO: Line Office  
LOSBO: Line Office Small Boat Officer  
MOCC: Motorboat Operators Certification course  
NAO: NOAA Administrative Order  
NOAA: National Oceanic and Atmospheric Administration  
OEM: Original Equipment Manuals  
OIC: Operator-in-Charge / Officer-In-Charge  
OMAO: Office of Marine and Aviation Operations  
OOD: Officer of the Deck  
ORM: Operational Risk Management  
OSHA: Occupational Safety and Health Administration  
PQS: Personnel Qualification Standards  
SBEX: Small Boat Examination  
SBO: Small Boat Operator  
SBOM: Small Boat Operations Manual  
SBP: Small Boat Program  
SBPM: Small Boat Program Manager  
SBSB: Small Boat Safety Board  
SBSP: Small Boat Supplemental Policies  
SBSPM: Small Boat Standard and Procedures Manual  
SECD: Safety & Environmental Compliance Division  
SRV: Small Research Vessel  
USCG: United States Coast Guard  
VIM: Vessel Inventory Management  
VOC: Vessel Operations Coordinator  
VPC: Vessel Program Coordinator  
WLL: Working Load Limit  
XO: Executive Officer



## NOAA SMALL BOAT STANDARDS AND PROCEDURES MANUAL

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## SECTION 1 INTRODUCTION

### .01 Purpose

This Manual incorporates the required provisions defined by [NOAA Administrative Order \(NAO\) 209-125](#). All NOAA small boat operators, employees, and contractors involved in small boat operations are required to read the Small Boat Standards and Procedures Manual (the Manual) and operate small boats per the provisions of this Manual. The standards and procedures in this Manual are the minimum requirements that must be met; they may be exceeded but not diminished.

For the purposes of the Manual, “small boats” are defined as boats less than 300 Gross Tons (GT). The Manual provides policy and guidance to enhance safety and promote operational readiness by implementing general operating standards and procedures for all NOAA small boats. It is intended to supplement best management practices and risk management principles.

### .02 Scope

The contents of this Manual apply to the following:

- Small boats owned and operated by NOAA.
- Small boats owned by NOAA, and operated by other entities.
- NOAA Employees chartering private small boats with no crew provided and not owned by NOAA: Small boats must meet all Federal, State, and local regulations as applicable to the small boat and operation. NOAA personnel must comply with the lifesaving requirements outlined in Section 10 in this Manual to include Personal Flotation Device’s (PFD’s), communication, distress signals, and first aid equipment. This may require NOAA personnel to bring this equipment if not provided by the small boat. NOAA Personnel operating these small boats must follow the requirements in Section 05, 06, 07, and 08 of this Manual.
- NOAA Employees operating other government agency small boats: Small boats must meet the host agency’s regulations and operations under a prearranged and defined agreement. The agreement must state equipment carriage, operational parameters, and maintenance responsibilities. Operations and equipment carriage must meet or exceed NOAA’s requirements outlined in this Manual. NOAA Personnel operating these small boats must requirements in Section 05, 06, 07, and 08 of this Manual.

### .03 Manual Review and Distribution

The Small Boat Safety Board (SBSB) is responsible for reviewing the Manual annually. The small boat community is encouraged to review the Manual annually,

and propose written changes to their Line Office Small Boat Officer (LOSBO). The LOSBO will elevate any proposed changes to the SBSB.

Changes to the Manual are approved by the SBSB, then sent to the Director, Office of Marine and Aviation Operations (OMAO) for concurrence. Once approved, the Small Boat Program Manager (SBPM) will work in conjunction with the LOSBO's to promulgate the most current edition.

Revisions to the current edition of the Manual will be implemented via the issuance of either technical directives or a new edition of the Manual, as required. A current version of the Manual is available on the [Small Boat Program \(SBP\) website](#). All Operators are responsible for ensuring that a current version of the Manual is accessible.

## SECTION 2 ROLES AND RESPONSIBILITIES

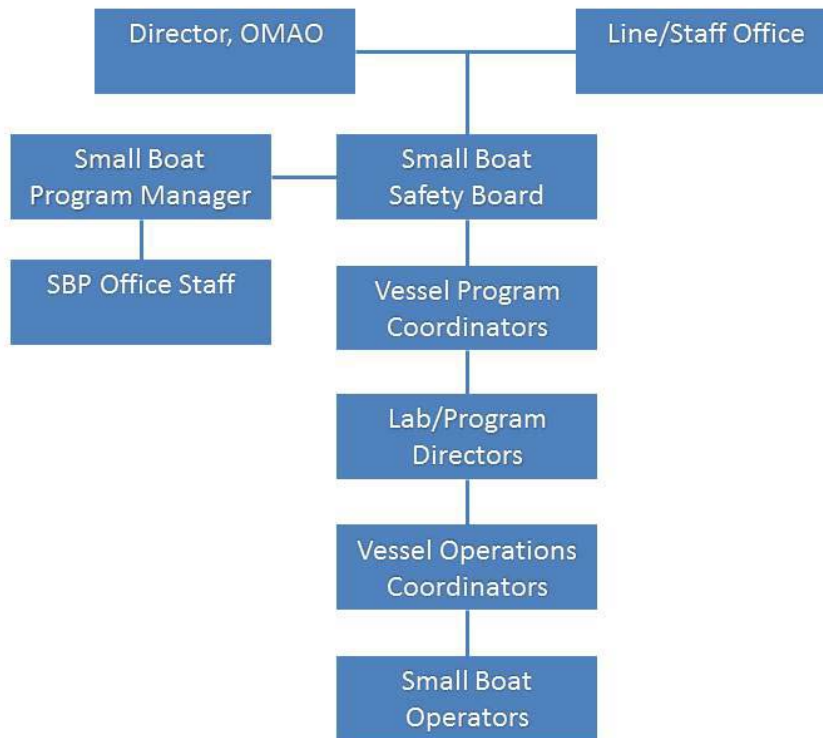


Chart 1. NOAA SBP Function Organization Chart

### .01 Programmatic Roles and Responsibilities

The Office of Marine and Aviation Operations (OMAO) has administrative authority over NOAA's Small Boat Safety Program. This authority is established in the Departmental Organization Order 25.2.

#### a) Director, OMAO

The Director, OMAO is the individual within OMAO charged with administering the Small Boat Safety Program, per the NAO 209-125. The Director, OMAO, is the final administrative authority for all matters pertaining to the NOAA Small Boat Safety Program and its policies, procedures, and standards.

#### b) SBP

The SBP consists of the SBSB, the SBP Office, and the small boat community.

The responsibilities of the SBSB are outlined in the NOAA Small Boat Safety Board Charter (appendix B). The Safety Board advises the Director, OMAO on all policies pertaining to NOAA small boat safety and management.

The Program Office works in conjunction with the Safety Board to create safety and management policies for NOAA small boats. The Program Office supports all small boat inspections. The Program Office is comprised of:

- SBP Manager is appointed by the Director, OMAO under the Safety Environmental Compliance Division (SECD) of OMAO. The Manager is the focal point for the Program Office, and is a voting member on the Safety Board.
- SBP Executive Officer is the administrative focal point for the Program Office.
- SBP Inspection Coordinator is responsible for coordinating, scheduling, and conducting boat inspections of Class III boats and Small Research Vessel (SRVs) and can perform Annual Small Boat Evaluations and Small Boat Examinations for Class I and II boats as requested by operating units; maintaining SBP files for inspections and status.
- SBP Engineering Coordinator is responsible for reviewing and providing engineering and technical guidance for boat alterations and repairs; maintaining SBP files for small boat alterations and repairs; reviewing and assisting Vessel Operations Coordinators with contracted repairs and maintenance specifications.

c) Program Directors

The Program Directors (i.e. Science Center Directors, Lab Directors, Sanctuary Superintendents, Director of Law Enforcement), or the responsible management position for each Vessel Operations Coordinator ensure implementation of, and compliance with, all policies for the safe use and management of small boats within a Program. Each program director must delegate, in writing, operational authority to a Vessel Operations Coordinator.

## .02 Operational Roles and Responsibilities

a) Line Office Assistant Administrator

Each Line Office Assistant Administrator (AA) or Deputy AA is charged with ensuring all small boat operations within their Line Office comply with established safety and management policies. Each Line Office AA will appoint a LOSBO to oversee small boat operations within the respective Line Office. The LOSBO will also serve as a voting member on the SBSB.

b) Line Office Small Boat Officer

The LOSBO represents individual programs, as well as the Line Office as a whole. The LOSBO provides oversight and assistance to Line Office Programs to carry out safe and effective small boat operations, and coordinates Line Office compliance with NAO 209-125, as well as the requirements as set by this Manual and Supplemental Small Boat Policy. The LOSBO has authority from their



corresponding Director or AA to issue “No Sail” orders to all boats within his/her purview, operating out of compliance with NAO 209-125, this Manual or any Supplemental Small Boat Policies.

c) Vessel Program Coordinator (VPC)

The VPC is identified by the LOSBO, and approved by the Program Director. The VPC assists LOSBO with communication and implementation of policies and requirements; reports issues up to the LOSBO; and provides assistance as needed by the LOSBO.

d) Vessel Operations Coordinator (VOC)

The VOC are appointed by their respective Program Directors. The authority of the VOC is derived from the Program Director. The role of VOC may be filled by a Federal employee or a contractor. All VOC's have operational authority over the small boats assigned to their rosters, and ensure all operations adhere to the safety and management policies laid out in this Manual. A VOC has the authority to issue “No Sail” orders to a boat found to be non-compliant to the Manual.

A VOC's Programmatic Responsibilities include:

- Ensuring accurate data is entered into [Vessel Inventory Management](#) database for each small boat under their authority
- Tracking and report operational metrics
- Attending VOC Summits and associated training
- Reporting accidents, incidents and near misses to proper authority

A VOC's Administrative Responsibilities include:

- Maintaining copies of training certificates for the SBO's and Crewmembers using the VOC's small boats
- Maintaining copies of certification letters for the SBO and Crewmembers using the VOC's small boats
- Ensuring Small Boat Operator (SBO) and crewmember meet certification currency
- Scheduling continuing education opportunities for SBO and Crewmembers
- Developing, conducting, and documenting appropriate drills specific for individual boat operations
- Annually reviewing, updating, and approving each small boat's Baseline Assessment
- Conduct Risk Assessment to review and approve new operations, platforms, and proposed personnel
- Verifying proper Float Plan usage
- Tracking active Float Plans
- Maintaining a record of completed Float Plans (3 years retention requirement)

A VOC's Administrative Authorities include:

- Developing Personal Qualifications Standards for each small boat
- Certifying that Officer In Charge (OIC) and SBO's pass Personal Qualification Standards evaluation
- Removing delinquent operators from the active list
- Revoking an OIC's qualification, even if the OIC was certified by a previous VOC
- Requiring additional training for an OIC, even if the OIC was certified by a previous VOC
- Elevating unresolved boat/operational issues to the VPC, then LOSBO and finally SBSB

A VOC's Responsibilities for Operation, Maintenance, and Inspection include:

- Scheduling required inspections
- Reporting inspection results to SBP Office, LOSBO, and others as directed by local policy
- Documenting completion of required preventative and corrective maintenance to small boats
- Coordinating with designated Contracting Officer Technical Representative or SBP Engineering Coordinator for boat contracted construction, repairs, or maintenance as required
- Documenting equipment malfunctions, and corrective actions taken

A VOC's Authority over Operation, Maintenance, and Inspection include:

- Stopping any small boat operation due to safety or weather concerns
- Taking boats out of service (inactive(Section 4.02)) due to required repairs or condition concerns
- Issuing Category I safety deficiencies
- Approving approve corrective measures taken to fix Category I deficiencies
- Ensure all small boat modifications comply with guidelines in Section 9 of this Manual
- Conduct risk assessment for development of a requirements document for procurement/acquisition of newly acquired boats (i.e. be actively involved in new purchases or acquiring excessed small boats)

e) Operator-in-Charge

An OIC is a singular designation of authority and responsibility, as directed by the VOC. The OIC is responsible for the safe operation of a small boat and all embarked personnel while underway. The OIC is responsible for conducting operational risk assessments (Green-Amber-Red (GAR) model) and safety briefings, instituting mitigation, and monitoring changing conditions. The OIC has authority and responsibility to modify or cancel operations based on changing risk assessments. When two or more small boat operators are on board, the OIC retains the ultimate responsibility. The OIC will be clearly identified to all embarked personnel.

## f) Small Boat Operator

A SBO is a qualification based on demonstrated skills and documented training. An SBO must meet all requirements for certification and be designated per this Manual. The SBO assists with the oversight of all personnel aboard, and helps to ensure that operations are conducted safely and efficiently, per the Manual, Program, and VOC instructions.

For planning dive operations, the SBO and Divemaster must assess environmental conditions including current speed and direction, sea state and weather predictions to decide whether or not diving can be safely initiated. The SBO must confer with the Divemaster and asks if all the dive checklists have been completed.

During dive operations, the SBO must concur with the Divemaster on the commencement of diving operations and can terminate diving due to weather, small boat related operational problems, or any other factors that may jeopardize the safety of the operation.

## g) Shoreside Point of Contact

The Shoreside Point of Contact (POC) is responsible for maintaining and monitoring active Float Plans within their Line Office Program. The POC must be available by phone or radio throughout the duration of the mission. The POC must take action if a small boat is overdue.

## h) Crewmember

Crewmember are persons required to be engaged in the safe operation of the small boat, including (but not limited to) navigation and maintenance of the small boat, its machinery, systems, and arrangements essential for propulsion and safe navigation or to provide services for other persons on board. Crewmembers must participate in the required drills referenced in Section 11 of this Manual. Additional crewmembers are required onboard during longer, more complex voyages, and/or those voyages requiring the carriage of a large number of people, as defined in Section 07 of this Manual. Crewmembers report directly to the OIC or SBO currently on watch. Crewmembers may also participate in mission activities, as long as crew duties are prioritized.

## i) Persons in Addition to Crewmembers

Persons in addition to crewmembers are any person on board the small boat who are not required to be engaged in the safe operation of the small boat. Persons in addition to crew include scientific researchers, persons in support of the mission, interns, or other personnel on board to participate directly in the planned scientific operations. This may include individuals whose presence heightens the public's awareness of the mission of NOAA such as outreach groups, NOAA stakeholders,

members of the media, educators, students, or personnel engaged in the repair or servicing of the small boat. All persons in addition to crew must comply with this Manual and follow the instructions and guidance of the OIC, SBOs, and Crewmembers.

## **SECTION 3        GENERAL POLICIES**

All NOAA small boats must be used only for official government purposes.

### **.01 Applicable Policies**

The operational requirements of NOAA small boats are governed by:

- NAO 209-125
- The Small Boat Standards and Procedures Manual
- Supplemental Small Boat Policies (as applicable)
- Small Boat Operations Manual (SBOM)
- Baseline and Mission Risk Assessment
- Applicable United States Coast Guard (USCG) and federal regulations
- Applicable federal and state environmental regulations

Supplemental Small Boat Policies:

Line Offices and their subordinate programs may issue policies and procedures relating to small boat safety and small boat operations in addition to the standards and procedures set in this Manual. A Supplemental Small Boat Policy cannot diminish the requirements of this Manual.

Small Boat Operations Manual:

A boat- specific operation manual is required for each small boat. The SBOM is a compilation of instructions, operational and stability limitations, procedures, regulations, and guidelines derived from the particulars of each small boat, the Baseline assessment, and the Mission Based risk assessment. A template outlining the minimum topics to be included in a SBOM can be found on the [SBP website](#). A SBOM does not diminish the requirements of the Manual or any Supplemental Small Boat Policies.

Risk Assessment:

VOC conducts, documents, and reviews Baseline and Mission Risk Assessments for each small boat under their responsibility. Boats of the same design, propulsion, operational and stability capabilities, and mission may be grouped together for this purpose. The assessment is based on an evaluation of operational risks to personnel, small boat, environment, and mission. Guidelines for performing a risk assessment can be found in Section 5 of this Manual. The Baseline and Mission Risk Assessments are included in each SBOM. A Baseline Assessment template can be found on the [SBP website](#).

### **.02 Command Designation**

A Program Director is responsible for delegating authority of small boat operations to the VOC. The VOC is responsible for ensuring all underway operations have a designated OIC. The OIC has command authority over the small boat's operation and all embarked personnel while underway. The OIC is also responsible for ensuring the

safe conduct of the mission and compliance with all SBP, Line Office, and regulatory policies and procedures.

.03 Personnel Authorized to Operate NOAA Small Boats

Only those personnel whose credentials meet training and certification requirements as per this Manual will be authorized to operate NOAA small boats. A [Small Boat Operator Authorization form](#) (NOAA Form 57-19-04, available on the SBP website) must be completed for each qualified SBO, identifying the specific operations and small boats, or class of boats, for which that SBO is qualified. The authorization form must be signed and maintained on file by the VOC. Personnel-in-training for SBO or Crewmember designation may control the small boat under the direct supervision of an OIC.

.04 Minimum Age Requirements

The minimum age requirement is 13 years old. Some small boats may not be suitable for the carriage of personnel due to the configuration and or small boat size. The small boat's SBOM contains specific prohibitions or procedures if carrying personnel and specific risks identified in the baseline assessment. One additional adult must be aboard for each 6 minors. Only daytime operations are authorized. Night time or overnight operations are not authorized. Personnel must be included in the safety brief required in Section 8 of this Manual. Provide properly sized lifesaving gear for each person onboard. If needed, carry additional gear to meet this requirement. Do not, at any time, exceed the carrying capacity or minimum lifesaving gear as outlined in the SBOM. Adhere to liferaft capacity, PFD's and stability limitations without exception.

.05 Foreign Nationals and Controlled Technologies

Foreign Nationals and Controlled Technology onboard small boats must comply with NAO 207-12 – *Technology Controls and Foreign National Access*.

.06 Seamanship and Personal Conduct

OIC must conduct small boat operations in such a manner as to avoid unnecessary risk, based on best management practices and risk management principals. At all times, operations are conducted to promote a professional and positive public image. All SBO and Crewmembers must exercise prudent judgment at all times and take proper action when dictated by emergencies that endanger life or property.

.07 Harassment, Sexual Harassment, and Related Offenses

The Department of Commerce (DOC) and NOAA do not tolerate discrimination based on race, color, religion, sex (including sexual harassment and pregnancy discrimination), sexual orientation, gender identity, national origin, age (40 years of age and over), genetic information, or disability (physical or mental), including the provision of reasonable accommodations for qualified applicants and employees with

disabilities or genetic information. Retaliation against those who initiate discrimination complaints, serve as witnesses, or otherwise oppose discrimination and harassment is strictly prohibited.

Harassment of any type is a serious issue and will not be tolerated aboard NOAA small boats. Unwelcome comments, gestures, physical contact, or any other behavior that is directed at an individual because of the individual's membership in a protected class (as described above) is prohibited.

Sexual harassment is a serious issue and will not be tolerated aboard any small boats. Unwelcome sexual advances, requests for sexual favors and other verbal, nonverbal, or physical conduct of a sexual nature may constitute sexual harassment when the behavior is:

- Directed at a person because of his or her sex;
- Unwanted; and
- So severe or pervasive that it interferes with the terms or conditions of employment.

It is prohibited for any employee to use implicit or explicit coercive sexual behavior to control, influence, or affect the career, salary, or job of an employee.

Any unwanted touching that is sexual in nature is strictly prohibited. Non-physical conduct that is based on sex and unwanted is also prohibited. Sexual harassment may include such actions as:

- Offensive jokes, slurs, epithets, or name calling;
- Intimidation, ridicule, or mockery;
- Insults or put-downs;
- Offensive objects or pictures;
- Interference with work performance;
- Physical contact such as patting, pinching, or brushing against another's body;
- Physical assaults or threats; and
- Pressure (subtle or overt) for sexual activity or demands for sexual favors, including demands that are accompanied by implied or overt promises of preferential treatment or threats concerning an individual's employment status

Space constraints in the small boat environment may result in inadvertent physical contact from time to time. However, purposeful physical contact directed at another person because of his or her sex is prohibited in the workplace. Likewise, any intimate physical contact is prohibited in the workplace, even where such contact is consensual in nature.

## .08 Smoking Restrictions

Smoking may be permitted aboard small boats outfitted with weather decks that are physically separated from the small boat's house, including all berthing, eating, and

living spaces, the pilothouse, and all machinery spaces. Smoking is allowable on weather decks only.

Smoking is not permitted in the vicinity of fuel, flammable/combustible material, or battery storage areas and, such areas must be labeled accordingly. Smoking is not permitted in the vicinity of any ventilation intake ducts. Identifying designated smoking area(s) that are physically removed from all mission-related working areas is strongly recommended. Smoking is prohibited within 50 feet of all NOAA small boats during fueling operations.

#### .09 Alcohol, Drugs, Narcotics

The OIC and all Crewmembers must not operate a boat or assist with operations within eight hours of having consumed alcoholic beverages, narcotics, or drugs that may detrimentally impact cognitive or motor abilities. The consumption of these substances is prohibited on board small boats. With the exception of prescribed narcotics (see Section 3.10), any person under the influence of alcohol, drugs, or narcotics will not be permitted aboard the small boat.

#### .10 Medical and Fitness Considerations

All persons onboard a small boat must be physically and medically qualified for performing the duties to which they are assigned. Some factors to be considered in making work assignments are strength, endurance, agility, coordination, and visual and hearing acuity. The nature of work onboard small boats can pose significant safety hazards to personnel.

- At a minimum, persons must meet the physical requirements for specific job tasks and hazards as required by the position, the job description, applicable DOC regulations, applicable Manual standards, Occupational Safety and Health Administration (OSHA) guidelines, or applicable USCG requirements for those licensed mariners.
- Embarked persons with a personal health condition, allergies, or medication that may impact medical response and treatment must provide a health questionnaire form in a sealed envelope to the OIC. This information must remain sealed and confidential unless that individual authorizes its release, or is incapacitated and it is deemed relevant to treatment or first responders in accordance with 5 CFR 293 – *Personnel Records* and Privacy Act requirements. An example of a health questionnaire is available on the [SBP website](#).
- Any person under a physician's treatment and taking prescribed narcotics or any medication that may prevent one being ready, willing and able to safely perform position duties must provide a medical clearance statement from a physician to their supervisor.
- The supervisor must notify the OIC, if a person is not cleared for assigned duties onboard.



- While onboard, all persons must not use or be under the influence of alcohol, narcotics, intoxicants, or similar performance or mind-altering substances.

The OIC must assure that potential personal safety, expected environmental conditions, and physical requirements are evaluated and communicated through mission planning and be included in the GAR assessment.

.11 Deviations from the Manual

Emergency situations may warrant actions not addressed in this Manual. Emergency situations consist of conditions that could result in death, physical harm, property loss, or where environmental damage is likely, but only to the extent that the action is immediately necessary in order to prevent or minimize harm. Any deviations from the guidelines in this Manual must be reported to the respective Program Director, LOSBO and VOC within 24 hours.

.12 Waivers

Waivers may be requested if the standards and procedures outlined in this Manual cannot be met. All waivers must be routed through the SBSB. To initiate the process, the VOC must submit a written request for a waiver to the Program Director and VPC. The VPC will make any applicable comments, and submit the waiver request to their LOSBO. The LOSBO will elevate the waiver request to the SBSB. The SBSB will give their recommendations to the Director, OMAO for final approval.

## SECTION 4 CLASSIFICATIONS AND STATUS

### .01 Small Boat Categories

Small Boat Category	Definition
Class A	Less than 16 feet overall length
Class I	16 to less than 26 feet overall length
Class II	26 to less than 40 feet overall length
Class III	40 to 65 feet overall length
SRV	Greater than 65 feet overall length but less than 300 gross tons

\* Overall length is determined by 33 CFR 183.3 – *Definitions*.

### .02 Small Boat Status

Small boat status is maintained as part of the [Vessel Inventory Management](#) database. The VOC is responsible for updating the status of a small boat.

- Active: Small boat has current Annual Small Boat Evaluation and/or Small Boat Examination, or is within the grace period.
- Inactive:
  - The small boat has been taken out of service OR
  - The small boat has an expired Annual Small Boat Evaluation and/or Small Boat Examination

## SECTION 5      PROCEDURES FOR RISK ANALYSIS AND MANAGEMENT

The goal of operational risk management (ORM) is to eliminate incidents and minimize risk so that missions can be fulfilled with the minimum amount of exposure to potential harm or loss. The first priority of conducting a risk assessment is to identify factors or conditions that could pose a threat to the safety of personnel and equipment involved in executing a mission. It is also applied to mission success and quality. In order to minimize incidents and mission failures, personnel must be cognizant of the inherent risk of any evolution, ensure all personnel and equipment are properly prepared, and mitigate or eliminate any risks that are found to be unacceptable.

### .01      Key Principals of Risk Management

- Do not accept unnecessary risk. Taking unnecessary risks not related to successful mission completion is unacceptable.
- Make risk decisions at the appropriate level. Risk-based decisions are made directly by the person in charge of an operation. Prudence, experience, judgment, intuition, and situational awareness of the person in charge of an operation are critical elements in making effective risk management decisions.
- All persons involved have the responsibility to report, to the person in charge, any identified risk associated with the operation and mission.
- Anticipate and manage risk by planning. Risks can be mitigated or eliminated when they are identified early. Integrate risk management into all operations and at every level of planning. Involve personnel who will be performing these duties or tasks.

### .02      Process for Managing Risk

The SBP requires that ORM be conducted using a specific process and tools. This process includes detecting hazards, assessing risks, mitigating or eliminating any risks that are found to be unacceptable, and maintaining situational awareness as risks change throughout an evolution.

Due to the diversity and complexity of most small boat operations, the risk management process is best implemented by a stepped approach to evaluate components of small boat, mission and environmental conditions.

- The small boat and components of operational personnel, systems, material condition and capabilities are reviewed annually in a *Baseline* assessment.
- The measures of success and potential hazards of a project or task, and the associated mission requirements, tools, gear and personnel are considered in a *Mission* assessment.
- The *GAR* assessment is then used to evaluate and prioritize the total risks of a cruise plan by combining inputs from the Baseline and Mission assessments in the context of the on the water conditions.

This three step approach effectively combines the perspectives of boat operations and mission objectives to best support underway decision making. It recognizes that small

boat, mission and cruise risks have different drivers and change at different time scales. Overall risk can be managed through these individual assessments by understanding the limits of small boat capabilities in relation to mission requirements, with adjustments and mitigations for prevailing environmental conditions.

a) Baseline Assessment

Risk management is a progression and refinement of operational boundaries to maintain acceptable safety margins. The capabilities and limitations established by boat manufactures, designers or builders are often general or optimum values. Guidance under the SBP provides further restrictions to the range and use of the small boat according to Class and operating area. The details unique to specific NOAA operations, small boat particulars, and firsthand operator experience must also be considered. A critique of these operational limits and concerns are captured in the Baseline Assessment

The Baseline Assessment is a tool to communicate practical limitations of the boat. This process refines the broad capabilities of a boat to better support operational decision making and reflect existing onboard conditions. Because material condition and the status of installed systems change over time, Baseline Assessments must be updated annually to reflect equipment age, installation and familiarity of new systems, changing crew skills sets and refinement of standard operating procedures.

Starting with the boat design characteristics, systems inventory and the requirements of this Manual, further refinements and constraints are established based upon prudent and responsible operation. This should be a team effort including operators that have firsthand knowledge of the boat and an understanding of underway operations. The format, narrative or table, can be tailored to best communicate limitations based on the boat and system complexity. Small boat characteristics, resources and capacity information, as well as the GAR risk categories can be used as an assessment framework. Examples of Baseline Assessments can be found on the [SBP website](#).

Baseline considerations are critical to effective project and mission planning. This comprehensive evaluation communicates the unique aspects of the boat and systems, instrumentation, skills of the operator and crew, range, lift capacities, handling characteristics, and the resources available for embarked personnel.

The output from this exercise helps define and narrow the range of acceptable risk in each of the GAR categories. For example, the GAR category for weather, without refinement, would have a range from calm to gale force. The Baseline Assessment might establish 2-3 foot waves as the maximum acceptable operating condition, resulting in an acceptable GAR weather range of calm to 3 foot waves.

The Baseline Assessment must be included in the SBOM and reviewed annually by the VOC.

b) Mission Based Risk Assessments

The Mission Risk Assessment considers the risks associated with mission equipment, operations, and personnel. Effective Mission Based Risk Assessments should be accomplished through a cooperative effort, including mission subject matter experts, along with field and small boat personnel. This review encompasses the measures of mission success, quality, critical elements, operating parameters, risks and limitations of a particular mission. It communicates requirements such as; expectations for small boat infrastructure, speed and position control, deck space, lifting, cruise duration and operating area.

Mission Based Risk Assessments can help with the selection of a boat for a particular mission by articulating what resources and capabilities are limiting or critical. Boats in the same Class, configured and outfitted differently, may provide different safety and mission success margins. Once the boat is selected, the mission risks identified will better define aspects of that boat that will have an elevated risk or narrowed operating margin. Examples of Mission Based Assessments can be found on the [SBP website](#).

The findings from this exercise further define and narrow the range of acceptable risk, from a science perspective, in each of the GAR categories. For example, the GAR category for weather on a particular boat might have a maximum Baseline limit of 3 foot waves, but mission success could limit operation to 2 foot waves, resulting in an acceptable GAR weather range of calm to 2 foot waves.

Findings of the Mission Based Risk Assessment must be communicated to all personnel involved in the mission to provide focus on key cruise elements. Changes in the scope, content, or operational area may warrant reevaluation of the Mission Risk Assessment.

c) GAR Assessment

The GAR must consider all elements of both the Baseline and Mission Risk Assessments in the context of predicted weather, team selection and the status of all resources. The GAR Assessment is a tool to help identify probable risks that may pose a threat during a specific mission or evolution. It is effective in communicating priorities to focus the entire cruise team on critical parameters. The GAR Assessment must be completed and communicated prior to getting underway. In all cases, the GAR should be updated to reflect changes in the environment, mission, equipment, or personnel. The GAR form can be found on the [SBP website](#).

To conduct a GAR Assessment, the OIC must:

- Ensure all mission personnel are involved in the GAR process
- Refer to the limitations identified in the Baseline Assessment;
- Refer to the hazards and limitations identified in the Mission Based Risk Assessment;
- Evaluate any increase in risk to equipment or personnel based on current conditions;

Risk Acceptance Authority

- Mitigating factors must be documented for any GAR category identified  $\geq 7$
- If the risk remains elevated  $\geq 7$  despite mitigation, or mitigation cannot be identified, the OIC must notify the VOC (or the next higher level of authority)
- A cumulative GAR score  $\geq 45$  (or a predetermined score, as determined by the VOC) despite mitigation requires the OIC to alert the VOC (or the next higher level of authority)

### .03 Risk Elimination and Mitigation

Elimination and mitigation can be identified at all levels of ORM. The elimination of risk is the ideal.

Mitigation steps (in order of priority):

1. Substitution – using different small boats, equipment, personnel, etc. to reduce risk
2. Engineering Controls – use mechanical protection and isolation
3. Administrative Controls – training, reducing exposure times, changing mission timeline, etc.
4. Personal Protective Equipment

### .04 Reassessment

An important element to NOAA's approach to ORM is to continually evaluate changes to the initial risk assessments. Significant changes to the small boat, mission, or environment warrant a reassessment of hazards and associated risk.

## **SECTION 6            OPERATOR QUALIFICATION, EVALUATION AND DESIGNATION**

This section establishes standards and provides guidance for the evaluation, qualification, and designation of personnel involved in the operation of small boats. Each VOC ensures that personnel are trained to achieve the stated qualifications and maintain the level of proficiency and currency necessary to safely and effectively accomplish their assigned duties. The requirements described in this Manual are regarded as the minimum standard of personnel qualification.

### **.01      Operator Credentials and Training Requirements Overview**

Class A, I, and II Boat Operators:

- USCG Auxiliary (USCGA) Boating Skills and Seamanship or Equivalent (Section .02)
- NOAA Component Course
- Personal Qualification Standards
- First Aid, CPR, AED Training
- Program-specific training

Class III and SRV Boat Operators:

- Current appropriate USCG License or active Uniformed Service Officer of the Deck
- NOAA Component Course
- Personnel Qualification Standard
- First Aid, CPR, AED Training
- Program-specific training

### **.02      Operator Credentials and Training Requirements Information**

#### **a) Operator and Seamanship Courses**

The minimum standard is USCGA Boating Skills and Seamanship. Any equivalent course must cover all of the significant topics of the USCGA Boating Skills and Seamanship curriculum and must be, at minimum, of equivalent duration (approximately 24 hours dependent on location). A current list of approved equivalent courses can be found on the Training section of the [SBP website](#).

- The SBSB has the authority to approve courses as an equivalent to the USCGA Boating Skills and Seamanship course. Requests for Boating Skills and Seamanship equivalency should be sent to LOSBO or the SBPM for review.
- For cases where a prospective SBO has prior training, the SBSB may consider this as fulfilling the USCG Auxiliary Boating Skills and Seamanship or equivalent requirement on a case-by-case basis.

- **Non-Motorized Watercrafts:** The VOC conducts a risk assessment to determine the type of hands-on training required for operators of non-motorized watercrafts. The VOC assures that the appropriate training is provided. This training may be in lieu of the Boating Skills and Seamanship requirement for non-motorized boat operators. All other training requirements must be completed (i.e. NOAA component, First Aid/CPR, PQS).

b) NOAA Component Course

The course is managed by the SBP and updated as policies, procedures, and standards change. The course should include location and mission considerations. Sections include:

- NOAA small-boat policy, procedures, and standards
- Operational Risk Assessment
- Team Coordination

If Component Course is unavailable due to remote geography or lack of timely local instruction, the VOC presents the major elements of the Component Course with a focus on risk management (GAR assessment) and NOAA policy. The date the VOC conducts the overview must be recorded on the Small Boat Operator Authorization form. This one-time extension is valid for 6 months.

c) Personal Qualification Standards

All SBO candidates must demonstrate proficiency, as determined by the VOC, to be designated as a SBO. The class of boat, operating area(s), and the mission is taken into account when determining an appropriate level of experience.

Personal Qualification Standards evaluation must include, at minimum:

- Demonstrate knowledge of small boat characteristics, limitations, and equipment
- Demonstrate proficiency of small boat handling skills, based on mission requirements
- Demonstrate proficiency in communicating risk management

Boat Operators must successfully complete a Personal Qualification Standards process with their VOC (or designee) for each type of mission and for each type of small boat.

Template Personal Qualification Standard checklists can be found on the SBP website, with separate forms for [Class A and Class I boats](#), and for [Class II boats](#).



d) First Aid, CPR, AED Training

All SBO must have current certification from industry recognized First Aid and CPR courses. SBO working aboard small boats with an AED onboard must have AED training.

e) Program-specific Training

If applicable, mission related, local, or program-specific training is provided (e.g., surf operations, dive operations, towing nets, and survey launch, ice, marine mammal operations).

f) Refresher Training

Personal Qualification Standard evaluation must be completed every 3 years. The VOC can require additional training to provide continuous education and career development.

.03 Crewmember Training Information

Crewmembers are required to receive small boat-specific on the job training and must demonstrate to their OIC knowledge of the procedures and equipment carried aboard the small boat(s) on which they will be employed.

Additional requirements can be found in Section 7. Template Crewmember Qualification Standard checklists can be found on the SBP website, with separate forms for [Class A and class I boats](#), for [Class II](#), and for Class III and SRV boats.

.04 Documentation

A current [Small Boat Operator and Crewmember Authorization](#) form (NOAA Form 57-19-04, available on the SBP website), Personal Qualification Standard checklists, and copies of all training certificates must be completed for each Boat Operator and maintained by the VOC for each Line Office Program.

Operator Authorization forms must be reviewed and validated annually by the VOC to ensure currency of certifications, training requirements, and a measure of proficiency. Operators are responsible for tracking their own training and currency requirements in conjunction with the VOC.

.05 Delinquency

If the required training and certifications are not maintained per this Manual, SBO are considered delinquent and will be restricted from duties on their designated small boat(s).

.06 Advanced and Continuing Education

Boat operators should continue to advance their boating skills and knowledge. VOCs should look for opportunities to provide their boat operators with advanced training and education. VOCs may contact the SBP for advice and support for training and education programs and can look at the training section of the Training section of the [SBP website](#).

## **SECTION 7        SAFE MANNING AND UNDERWAY REQUIREMENTS**

All small boats must be manned by qualified personnel to ensure that operations are conducted in a safe, efficient, and professional manner. Personnel who are on board primarily to support the mission may assume crew duties only if the OIC has determined that the individual possesses the necessary skills and qualifications before assuming those duties. In this case, the highest priority is assigned to the safe operation of the small boat. Small boat designated crewmembers may assist with the mission at the discretion of the OIC.

All personnel are trained and qualified to perform the duties expected of them. This can include, but is not limited to:

- Cranes
- A-frames
- Hydraulic units
- Anchor windlass/winches
- Davits
- Compressors
- All small boats carried aboard, and their engines

In cases that threaten loss of life or damage to property, deviations from safe manning regulations may be allowed, with notification to the appropriate responsible party.

### **.01      Succession to Command**

Address Chain of Command during the pre-departure briefings. Identify an individual who is in charge should the OIC become incapacitated. Should the OIC become incapacitated, the designated individual must take the lead in maneuvering the small boat to safety and contacting emergency services to make necessary arrangements.

### **.02      Minimum Safe Manning Levels**

#### **a)   Class A, Class I, and Class II Boats**

All Class A, Class I, and Class II must be manned at a minimum by two people, one of whom must be the qualified OIC. Additional manning requirements are determined by the VOC, with notification to the Program Director (or designee). These levels are based on each small boat's manufactures loading plate, the SBOM, and the Operational Risk Assessment (GAR).

Under some circumstances, a small boat may be exempt from carrying a second person. In these cases, operations must comply with Section 7.04 of this Manual.

#### **b)   Class III and SRVs Boats**

All Class III small boats and SRVs must be manned at a minimum by one OIC and one crewmember. Additional manning requirements are determined by the VOC, with notification to the Program Director (or designee). These levels are

based on the complexity of the small boat, complexity of the mission, and the length of the voyage.

c) Outreach Events

For outreach events, additional crewmember or person other than crew familiar with the boat and its emergency procedures is required for every 10 embarked persons aboard, in addition to the OIC and a crewmember.

When carrying minors (under 18), see Section 3.04 of this Manual

d) Duration of Operations

When planning an operation, consider the total elapsed time and take actions to avoid fatigue. For planned operations exceeding 12 hours in duration, an additional SBO and enough qualified crewmembers must be onboard.

.03 Dive Operations Manning Requirements

When conducting dive operations from a small boat, the boat must be continuously manned by a qualified SBO, who must remain aboard at all times during diving operations. This applies both underway and at anchor.

Requirements for dive operations must comply with the NOAA Diving Standards and Safety Manual.

.04 Solo Operations Requirements

Solo operations are allowed on Class A, I, and II small boats as long as the small boat has close support, either from ashore or from a nearby platform. Close support is where rescuers are immediately notified by someone other than the SBO in the event of an emergency.

If solo operation without close support is necessary, a risk assessment is completed and mitigating factors are incorporated in the appropriate supplemental policy approved by the Program Director (or designee).

.05 Underway Requirements

a) Daily missions

For planned operations exceeding 12 hours in duration, an additional SBO and enough qualified crewmembers must be onboard. Fatigued embarked personnel impacts operational safety. Structure work schedules that allow adequate rest for personnel and crewmembers.

b) 24 hours operations

During multi-day missions that require personnel to be underway for greater than 12 hours, the following applies:

- A. No SBO or crewmember may exceed 12 hours of watch standing in a 24-hour period.
- B. Accommodations must be provided for all SBO and crewmembers if the small boat is operated more than 12 hours in a 24-hour period, unless the crew is put ashore and the small boat is provided with a new crew. Accommodations must be adequate to provide for effective rest period, and the personnel capacity of the accommodations must be stated in the SBOM.
- C. All persons who are assigned as operator or crew must be provided a minimum of 10 hours of rest in any 24-hour period;
- D. The hours of rest may be divided into no more than two periods, one of which is at least 6 hours in length.
- E. The requirements for rest periods in B) and C) above need not be maintained in the case of an emergency or other overriding operational conditions.

c) Other requirements when applicable:

- The OIC requires that watch schedules be posted where they are easily accessible.
- When required, a Crewmember may be assigned duties as a watch stander either when the small boat is underway or at anchor. As watch stander, the primary task is to stand a proper lookout, free of distractions, so that full focus can be applied to the environment of the small boat.

## **SECTION 8            MISSION PLANNING**

Compliance with each of the following procedures is mandatory for all trips, whether planned or unplanned.

### **.01      Float Plan**

The primary purpose of a float plan is to assure that there is a predefined responsibility and emergency response protocol for an overdue small boat. Every SBP must have the ability to track small boats underway and confirm their safe return.

In addition to monitoring personnel on the water, float plans provide a valuable record of the small boat's activity. These metrics help the SBP validate the role small boats play in carrying out NOAA's mission. Tracking small boat operations and personnel involved allows the SBP and individual Line Offices to evaluate safety records and detect trends. Documenting time underway and the number of embarked personnel provides critical measures of exposure and allows for calculating accident rates.

Float plans at a minimum must have the following information:

- Small boat name and NOAA Hull Registration Number
- Name of OIC
- Names of all persons on board, with their emergency contact information
- Departure time, date, and location
- Expected return time, date, and location (if location different from departure)
- A primary shore side Point of Contact,
- Emergency response contact information (USCG, local emergency response units....)
- General location of operational area
- Mission/Project
- The final value from the GAR
- Communication Plan

#### **Point Of Contact Requirements:**

All float plans identify a shore side POC. The shore side POC must be available by phone, email or radio throughout the duration of the mission. A back-up method of contacting the shore side POC must be included in the event the primary means of communication fails.

#### **Communication Plan Requirements:**

Establish a schedule of communications to report the small boat's status to the shore side POC. Multi-day trips require at least one daily check-in.

#### **Submission Requirements:**

All Float Plans must be submitted in writing or electronically, regardless of voyage duration. Before departure, the OIC submits the Float Plan to the VOC (or designated

shore side POC). The float plan is updated when modifications to the mission, personnel, or boat are made.

In situations that involve immediate danger to life, property, or natural resources, a Float Plan may be submitted verbally to the VOC or designee. The VOC or designee must put the information in writing and manage the Float Plan as required by this Manual.

Example Float Plans are available on the [SBP website](#) (under Daily Safety & Orientation Forms).

## .02 Small Boat and Equipment Inspections

The OIC is responsible for checking boat conditions and safety equipment before departure. At a minimum, the OIC should:

- Inspects records (logs, float plans, trip reports ...) for maintenance discrepancies that have not been addressed;
- Ensures that all equipment identified as not operational have been corrected;
- Ensures that all required safety, survival, communication, and navigation equipment specified in this Manual are onboard, maintained in operational condition, and are tested;
- Ensures that the boat is properly fueled for the mission. Consider weather conditions and tides carefully at a planned destination and when calculating distances to alternate ports;
- Ensures all fluid levels are normal (e.g. oil, coolant, steering, etc.) and that adequate reserves are onboard;
- Inspects bilges for standing water or evidence of fluid leaks;
- When applicable, ensures that the back-up motor or secondary means of propulsion is operational;
- When applicable, ensures the back-up or secondary means of steering is operational;
- Visual inspection of all lifting apparatus, and mission critical equipment.

## .03 Start-Up Checklist

All small boats are required to have a written checklist of start-up procedures, specific to each small boat, to ensure safe operations. The OIC is responsible for completing the checklist.

## .04 Mission and Safety Orientation Briefing

The OIC conducts a briefing with all embarked personnel. The briefing is conducted far enough in advance so the crew can prepare adequately for any last-minute adjustments.

The mission briefing should review previous mission planning and preparation, and include any updates. The safety briefing includes general small boat familiarity and the location of all safety systems and equipment carried aboard (fire extinguishers, life rafts, life rings, personal flotation devices, immersion suits, Emergency Positioning-Indicating Radio (EPIRBs), Very High Frequency radio (VHF), flares etc.). Embarked personnel must be briefed on procedures to follow during fire, abandon ship, man overboard, and other emergencies. An example template of a Safety Orientation Briefing checklist is available on the [SBP website](#).

The briefing should also include potential impacts of weather such as current conditions, sea state and tides when applicable, trends, and forecasts for the departure location, proposed route, destination, and any alternate working areas.

All personnel onboard must participate in the ORM. The ORM must be done using the GAR form, and must confirm that the mission, personnel, and small boat meet the operational parameters of the Baseline and Mission Risk Assessments. The GAR must also address the weather conditions discussed during the weather briefing.

During the briefing, the OIC communicates and receives a verbal response from all embarked personnel that:

- The team is well rested and ready to work
- Everyone understands the mission, and is capable of performing it
- All potential risks and obstacles are mitigated
- Identify an individual who is in charge should the OIC become incapacitated

The OIC has the authority and responsibility to cancel the operations if risks cannot be mitigated to a level that will ensure the safety of all personnel onboard, and the successful outcome of the mission.

## .05 Underway Requirements

### a) Equipment Monitoring

OICs must monitor critical systems while underway. Consider the malfunction's effect on the ongoing GAR assessment, and adjust accordingly. Log all equipment malfunctions in the logbook (or trip report) on the day of discovery. The OIC reports the malfunction to the VOC on the day of discovery. The VOC ensures corrective actions are taken in an acceptable timeframe.

### b) Weather Monitoring

Monitor weather forecasts and warnings at appropriate intervals, as well as any time the weather conditions appear threatening or conflict with forecasted conditions.

Do not operate small boats in known or forecasted weather conditions that exceed small boat or personnel limitations.



The OIC has the authority and responsibility to cancel the operations or seek shelter if risk cannot be mitigated to a level that will ensure the safety of all personnel onboard, and the successful outcome of the mission.

.06 Float Plan Updates

Float Plans must be modified to reflect changes in underway operations. The OIC communicates amendments to the Float Plan with the POC.

.07 Post Mission Requirements

a) Float Plan Closure

The Float Plan must be closed at the end of the trip. The OIC closes the Float Plan and notifies the shore side POC of arrival.

b) Shut down Procedures

All small boats are required to have a written shut down checklist. The OIC is responsible for completing the checklist and logging any deficiencies found.

c) Small Boat Clean-Up Procedures

Conduct a post-mission clean up and inspection after the boat has returned. Leave the small boat in a professional, mission ready condition.

.08 Procedures for Overdue boats

If a small boat is overdue, the Point of Contact must execute all steps below:

- Attempt to contact the small boat by satellite/cell phone or HF/VHF radio;
- Check the destination point (boat slip, launch ramp etc.) personally or ask any on-site personnel to check;
- Notify the appropriate VOC and Program Director of the situation. The VOC notifies the LOSBO (and VPC as applicable) if Search and Rescue Operations are initiated.
- Notify the emergency response contact of overdue boat and be prepared to provide Float Plan information.
- Remain available until the boat has been contacted and either returns to the dock or has reached an alternate safe location;

## .09 Documentation

Small boat activities, conditions and mission information must be documented to effectively support vessel usage metrics, track deficiencies and serve as an official record of actions taken to mitigate risk. The VOC must retain documentation for 3 years.

Class A and class I small boats must retain post mission documents using either a float plan, or a post mission trip report, or a logbook:

- Float Plan that are also used for mission documentation must provide all the information in Section 8.01 of this Manual. The information listed below must be filled in after the mission is completed.
- Trip Reports are completed after the mission is completed, and must include all the information listed below.
- Logbooks for class A and class I boats may be kept ashore, and completed after the mission is completed

Class II, III, and SRV small boats must use a logbook to record information real-time. Minimum documentation includes all of the following:

- Name of OIC, SBO and embarked personnel
- Name/description of the mission
- GAR value
- Fuel level information
- Starting Engine hours (if available)
- Date and Time Departure
- Operational Area and/or Destination
- Drills Conducted
- Problems, conditions or incidents encountered
- Actual time of arrival
- Final fuel information
- Ending engine hours (if available)
- Document mechanical issues or discrepancies found during shutdown inspection

## SECTION 9      STABILITY, DESIGN AND CONSTRUCTION

### .01      Construction and Stability Criteria for Designated Operating Areas

Small boat construction and stability evaluations are essential to assure safe operation under prevailing conditions. NOAA uses standard definitions found in the Code of Federal Regulations to categorize hazards associated with operating areas and apply the appropriate stability requirements. Ship design and construction details are critical elements of mission risk assessments and seaworthiness.

All small boats have a designated operating area noted in the SBOM and operate within the established limitations associated with the designation.

### .02      General Operating Area Definitions

A small boat's operating area designation dictates the minimum stability and construction elements required. The following general definitions apply to all small boat classes. These definitions apply only to this Section of the Manual.

- **EXPOSED:** Operation in waters more than 20 nautical miles from the mouth of a harbor of safe refuge\*.
- **PARTIALLY PROTECTED:** Operation in waters not more than 20 nautical miles of the mouth of a harbor of safe refuge, except waters determined section .03 below.
- **PROTECTED WATERS:** Operation in sheltered waters presenting no special hazards such as most rivers, bays, harbors, lakes, except waters determined section .03 below.

\*Harbor of safe refuge is determined by 46 CFR 175.400 – *Definitions*.

### .03      Exceptions and Special Operating Area Designations

It is recognized that hazards presented by local, regional, and seasonal conditions require special designation. The USCG Officer In Charge, Marine Inspections (OCMI) determines areas of increased hazard due to prevailing conditions and refines the general operating area definitions listed above. These designations can be provided by contacting SBPM.

Known areas of special designations:

- All waters off the Pacific Northwest (anywhere offshore) from Chetco River OR to Race Rocks, WA in the Strait of Juan De Fuca is **EXPOSED WATERS**. This is due to the dangers of the Pacific Ocean.
- Operating on the Chesapeake Bay with the exception of selected tributaries are **PARTIALLY PROTECTED WATERS**. This is due to the large geographical size of the bay and prevailing conditions.

- Operating anywhere on Puget Sound is **PARTIALLY PROTECTED WATERS** with the exception of Elliot Bay which is **PROTECTED WATERS**.
- Operating anywhere on Alaskan waters is **EXPOSED WATERS**. This is due to the inherent dangers and prevailing conditions of Alaskan waters. (Exceptions are Kachemak Bay, Auke Bay, and Tongass Narrows. These waters are considered partially protected.)
- Operating on all areas of the Great Lakes from October 1st to April 15th is **EXPOSED WATERS**.

#### .04 Small Boat Stability and Construction Considerations

Evaluation principals for stability and construction:

- Small boat design, construction, mission gear, and operation when determining operating area limitations.
- Small boat loading conditions and mission tasks significantly impacts the stability characteristics of small boats.
- Maintain reserve buoyancy, freeboard, righting arm, and seaworthiness under all prevailing conditions and missions.

As these attributes can be very complex, the SBP has grouped criteria by General Stability and Mission Stability requirements. General Stability requirements apply to all small boats by Class. Mission Stability requirements are derived from mission gear and operation.

#### .05 General Stability Requirements

Class A, I and II      Posted load limitations including engine horsepower, number of persons, gear weight, and includes elements of 33 CFR 183 – *Boats and Associated Equipment*, or 46 CFR 178 – *Intact Stability and Seaworthiness* & 179 – *Subdivision, Damage stability and Watertight Integrity* as applicable. This is provided by the small boat manufacturer, naval architect, professional engineer, or established with guidance from the SBP. Under no circumstances must small boat operations exceed those limits.

Class III and SRV      Stability characteristics must be documented and include elements of 46 CFR 178 & 179 that best reflect the small boat type, intended service and operating area. A manufacturer or naval architect issued stability letter will provide instructions to the OIC and a statement of compliance to the specific requirements of the Designated Operating Area must be included in the SBOM. Depending upon the complexity of the small boat, a full satiability booklet with hydrostatic curves and

voyage analysis may be of value in managing future changes to the small boat configuration.

- All
- The SBOM for each small boat must clearly state the small boat's Designated Operating Area(s)
  - Loading limitations, proper stowage of gear, and sea state limitations must be noted in the SBOM and included in a small boat's Personal Qualification Standards training.
  - Maintain material condition of hull, water tight spaces, buoyant material, and freeing ports.
  - Include a small boat weight log in all SBOM to track hull modifications and significant weight addition or deletion. Generally, significant weight deletion or addition greater than 2% of the small boat's original gross weight or displacement. An example of a weight log for each small boat class is available on the [SBP website](#).

#### .06 Mission Stability Requirements

Table 1 reflects the impact of personnel and weight handling operations on initial stability characteristics. Mission requirements for the number of persons on board, over-the-side lifting, and towing operations are used to further refine a small boat's Operating Area designation. Table 1 is provided to determine operating area restrictions for typical conditions. Operating conditions in excess of those detailed in this table must comply with the requirements of Section 8.07.

Table 1. Mission Conditions and Operating Area Restrictions

Small Boat	Operating Conditions	Operating Area
<b>CLASS A</b>	Operating without a support vessel and operates within the limitations set forth on the small boat loading plate	<b>PROTECTED and PARTIALLY PROTECTED WATERS NOT MORE THAN 3 MILES FROM LAND</b>
	Operating with support vessel evaluated for the applicable operational area, which can accommodate additional persons onboard.	<b>ALL WATERS</b>
<b>CLASS I  And  CLASS II</b>	Small boat carries more than six persons, <b>OR</b> conducts lifts over-the-side with static loads exceeding 200 lbs., <b>OR</b> conducts bottom trawls or dredges.	<b>PROTECTED WATERS ONLY</b>
	Small boat carries six or less persons <b>AND</b> does not conduct static lifting over-the-side of loads exceeding 200 lbs. <b>AND</b> does not conduct any bottom trawls or dredges.	<b>PARTIALLY PROTECTED WATERS</b>
	Operating with support vessel evaluated for the applicable operational area that can accommodate the additional persons onboard.	<b>ALL WATERS</b>
<b>CLASS III and SRV</b>	Operating within the limits of the specific individual stability evaluation which defines the boat specific operational areas and limitations.	<b>WATERS DEFINED BY THE SMALL BOAT STABILITY EVALUATION</b>

#### .07 Special Case Class I and II Mission Stability Requirements

Small boat operating conditions that fall outside of Table 1 require boat specific evaluation. To assist in a timely and thorough evaluation, the SBP maintains a standing working group to evaluate the capability to meet desired operating area limitations. The Stability Working Group is comprised of:

- SBP Engineering Coordinator
- SBP Inspection Coordinator
- SBSB representative
- VOC representative
- Field operations representative

The Board representative, VOC representative, and field operations representative are nominated and approved by the SBSB. Nomination qualifications include individual interest and subject matter expertise.

The Stability Working Group is tasked with applying appropriate regulatory requirements, and evaluating mission details and practical small boat characteristics consistently. The combined experiences of the NOAA small boat fleet and industry standards are used to qualify conclusions of the group. The Stability Working Group provides technical guidance to establish operating area or mission limitations. The Stability Working Group may require professional engineering evaluations or tests to determine small boat stability characteristics. The resources of the Stability Working Group are available upon request to the SBPM.

Upon completion of a stability review, subsequent limitations on loading, mission conditions, or operating area are submitted to the SBSB for approval. Once approved, the stability review is documented in the SBOM.

#### .08 Small Boat Acquisition Criteria

All proposed new small boat acquisitions that do not meet the provisions and limitations of Table 1, require review by the Stability Working Group. This group reviews requirements for determining the suitability of small boat design, construction, and stability for the intended designated operating area. (Reference Section 12)

#### .09 Modifications of Small Boats

Ensure any weight or engine changes in proposed modifications or alterations to Class A and Class I small boats are within the maximum limits listed on the loading placard.

Contact the SBPM to enlist the services and guidance of the Stability Working Group for any proposed modifications or alterations made to Class II, Class III and SRVs with stability data derived from inclining or calculated methods. The working group determines what marine engineering or naval architecture services are required.

The VOC maintains records of all small boat modifications or alterations. Changes that result in weight addition or deletion must be recorded in the small boat's weight log.

Examples of criteria that require a Stability Working Group review are:

- Significant weight deletion or addition greater than 2% of the small boat's original gross weight or displacement;
- Changes in installed tank capacities;
- Watertight bulkhead alterations;
- Tank boundary changes;
- Fishing method changes not included in the original stability evaluation. Examples are the removal or addition of fixed equipment necessary for the method of fishing operations such as outriggers, net reels, and winches.
- Freeing port alterations;

- Lifting gear changes other than equivalent equipment;
- Windage changes;
- Bilge keel area changes;
- Carrying additional personnel and various equipment;
- Repowering other than maximum rated horsepower, weight, and propulsion type



## SECTION 10      LIFESAVING EQUIPMENT AND SMALL BOAT EQUIPMENT

Given the type and complexity of operations conducted by NOAA, expanding carriage requirement considerations to include remoteness, complexity of the small boat, and operational challenges will improve overall safety. These requirements are one element of ORM and support engineering, inspection, and personnel requirements.

NOAA minimum lifesaving and small boat equipment requirements have been compiled in this section from federal regulations, industry standards, and best management practices. Additional information and references can be found in the following: CFRs 46, 33, and 29, American Boat and Yacht Council (ABYC) standards and guidance from the SBP.

### .01      Determine Carriage requirement

#### a)    Standard Equipment Required

- Non-motorized small boats, use Table 1
- Class A, I, and II small boats require a three phase approach to determining carriage requirements.
  - Determine standard equipment required aboard all classes. These requirements are found in Table 2.
  - Determine additional requirements based on both size and distance from shore. These requirements are noted with an “R” in Table 4.
  - Define individualized requirements for each small boat, based on and ORM, mission complexity, gear deployment, and capabilities of the boat. These requirements are noted with an “O” in Table 4
- Class III and SRV small boats, use Table 3.

Rescue boats aboard NOAA ships must comply with equipment requirements within 46 CFR 199-*Lifesaving Appliances and Arrangements*, OMAO Supplemental Small Boat Policy, and additional gear or resources required by the ship’s commanding officer. For further rescue boat guidance, please contact the SBP.

#### b)    Operational Considerations

VOCs, OICs, and scientists must consider potential impacts the mission and the intended scientific operation will have on stability, limited steerage, or lifting capability. Mission specific operations such as trawling, sampling gear deployment/recovery, fishing with hook and line, Remotely Operated Vehicles (ROV)/ Autonomous underwater Vehicles (AUV) handling, and outreach or media events all require special considerations. Specialized tools, additional safety equipment or personal protective equipment are required for many of the operations conducted on small boats.

VOCs, OICs, and scientists must consider environmental extremes and operations that require extended periods underway. VOCs should consult with their local

USCG, OCMI to determine if intended operations are in areas of special designation and require extra risk mitigation steps. Some missions require intense physical exertion that is often repeated multiple times in the course of a day or cruise. Consider every potential impact. The diversity of small boat operations make it difficult to provide an inclusive list of operational challenges and examples of risk mitigation measures. The list of examples below is by no means comprehensive and will continue to expand as VOCs and operators share their experiences. Should your scientific operation not be listed, please share it with the SBP so it can be included.

- Artic cold weather work – use of dry suits or comparable thermal protection, sunglasses, sunscreen
- Heat extremes – sun protection (canopies, hats, clothing, frequent breaks, sunglasses, sunscreen, hydration, extra water)
- Extended periods underway (fatigue) – frequent breaks, rotate operators, rest periods, suitable area for rest, provisions for food
- Heavy traffic areas – additional lookouts, backup radar and radio, AIS
- Trawling – danger areas marked, cable cutters, hardhats, closed toe shoes, protective clothing
- Longline – wire cutters, knife, snag considerations for PFDs,
- Marine mammal and turtle live capture – net precautions, people in the water, traffic
- Overhead lifting and handling of weights on deck – hard hats, steel toe shoes, gloves

#### c) Special Circumstances

If carrying equipment is deemed hazardous based on mission, contact your LOSBO or the SBP for additional information or clarification on the carriage requirements for multiple small boat operations.

When operating in conjunction with a larger support vessel, i.e. from a NOAA research vessel, chartered vessel, etc.

- The boat must meet all stability and carriage requirements as stated in sections.
- The boat must comply with the supplemental policy for the support ship/program/office.
- Class II boats do not need to carry additional USCG or International Convention for the Safety of Life At Sea (SOLAS) approved type I PFD as long as the support vessel can provide immediate response to the Class II boat.

If operating in tandem with another small boat where carriage of safety and lifesaving equipment may create additional risks to the small boat operations (i.e. during large whale disentanglement operations, dolphin captures, emergency response, etc.), a small boat (referred to as the “primary boat” for the remainder of

this section) may operate without all of the required safety and lifesaving equipment provided each of the following are met:

- The support boat maintains visual contact and communication with the primary boat at all times while the primary boat is underway
- The support boats only task is to serve as an operational platform for the primary boat;
- The support boat meets all carriage requirements as well as enough safety and survival equipment to accommodate both boats;
- The support boat has the carrying capacity to embark all personnel from both boats;
- Each small boat has sufficient PFDs for all embarked personnel

A risk assessment must be completed for the operation that specifically addresses the coordination between the support and primary boat.

Table 1. Minimum Carriage Requirements: Non-Motorized Small boats

<b>Resources to Protect Personnel</b>	
Personal Flotation Devices (PFD)	Appropriate size and buoyancy for every person aboard with light and whistle. All components must be USCG approved and PFD type must be suited for intended operations (i.e. lake, surf, swift water...)
Thermal Protection	Required for every person if SST is $\leq 59^{\circ}\text{F}$ based on NOAA's Coastwatch ( <a href="http://coastwatch.noaa.gov">http://coastwatch.noaa.gov</a> ) reports or determined by operational risk assessment (Dry, wet, anti-exposure or USCG approved immersion suit appropriate for the mission)
Throwable Flotation device	Open deck requires USCG approved type IV PFD, enclosed deck may use a throw bag
First Aid Kit	Equipped for area of operations and personnel aboard (i.e. response time) An example inventory list is available on the <a href="#">SBP website</a> .
<b>Positioning</b>	
GPS	Cell phone GPS lat/long positioning or handheld GPS
Compass	Magnetic or electronic handheld
Local Chart/Map	Current printed or electronic map that provides adequate detail to navigate the area of operation
<b>Communication</b>	<b>Two different forms of communication are required at all times</b>
Visual	Designated standby person onshore or in another small boat able to respond
Cell Phone	Must be within cell phone range
VHF Radio	Handheld waterproof radio
Email or Text messaging	Within cell phone range or utilizing satellite service (phone, SPOT, EPIRB...)
Satellite Phone	Required when beyond cell phone range and VHF range
<b>Damage/Emergency Response</b>	
Emergency Beacons	EPIRB or Personal Location Beacon (PLB)
Daytime Distress Signal Flag	Approved USCG daytime signals can be used in place of distress flag
Visual Distress Signals (If operating between sunset - sunrise)	One USCG approved electric distress light or 3 USCG approved combination day/night flares
Sound Signaling Device	Whistle or air horn, must be heard at least 1/2 mile away for at least 4-6 seconds
Anchoring or securing the small boat	Depending on the operations, an anchor or sea anchor may be required
Means of Dewatering	Bailer or manually operated bilge pump
Paddle/Paddles	Number required will depend on the small boat (i.e. kayak, raft, canoe...) Label with small boat's name or NOAA
<b>Visual Identity and Signage</b>	
NOAA Identification and Registration	Must comply with Section 13 of the Manual
Navigation Lights	One all around white light visible from all directions or a flashlight showing a white light which shall be exhibited in sufficient time to prevent collision
Capacity Label	Permanently affixed
GAR Slate or Placard	Required
<b>Documents on File with VOC</b>	Baseline and Mission Risk Assessments, ASBE, PQS, OEM

Table 2. Minimum Carriage Requirements: Motorized Class A, I, and II Boats

<b>Resources to Protect Personnel</b>	
Personal Flotation Devices (PFD)	Appropriate size and buoyancy for every person aboard with light and whistle. All components must be USCG approved. Refer to Section 10.02 of this Manual for specific PFD requirements
Thermal Protection	Required if operating where SST is $\leq 59^{\circ}\text{F}$ ( $15^{\circ}\text{C}$ ) based on NOAA's CoastWatch ( <a href="http://coastwatch.noaa.gov">http://coastwatch.noaa.gov</a> ) reports or determined by operational risk assessment (Dry, wet, anti-exposure or USCG approved immersion suit appropriate for the mission)
Life Raft	Required beyond 12 nm. Refer to (life raft) Table 4 of this Section, and Section 10.03 of this Manual for specific raft requirements
Throwable USCG approved type IV PFD-Flotation Device	Float cushions are permitted on class A and I boats for day operations. For class II boats a 18" ring life buoy is required.
First Aid Kit	Equipped for area of operations and personnel aboard (i.e. response time) An example inventory list is available on the <a href="#">SBP website</a> .
Carbon Monoxide Alarm	All small boats with enclosed cabins, number of alarms must protect all spaces occupied by personnel (berthing, galley, bridge....)
MOB Recovery	Recovery gear aboard and procedure in place for conscious and unconscious victim.
<b>Positioning</b>	
GPS or Chart plotter	Suitable for intended operational area
Compass	Magnetic or Electronic with independent or backup power supply
Navigation Charts	Current printed or electronic chart that provides adequate detail to navigate the area of operation
Navigation Rules	Appropriate book, chart, or placard for the class small boat and operating area, Small boats $\geq$ than 12 meters (39 feet) must carry a current electronic or printed copy aboard
<b>Communication</b>	
Visual	Designated standby person onshore or in another small boat able to respond
Cell Phone	Must be within reliable cell phone range
VHF Radio	One 25 watt VHF radio is recommended, Class II small boats must have at least one radio with MMSI registration and integrated with GPS
Email or Text messaging	Within reliable cell phone range or utilizing satellite service (phone, SPOT, EPIRB...)
Satellite Phone	Phone or other satellite communication is required when operating beyond cell phone coverage
<b>Damage/Emergency Response</b>	
Emergency Beacons (EPIRB, PLB)	In lieu of EPIRBs, PLBs are permitted for protected and partially protected operations on Class A and I small boats. For Coastal and Exposed waters Category I (auto deployment) EPIRBs are required. Category II (manual) EPIRBs may be authorized depending on small boat design and suitability.
Visual Distress Signals	Class A-one orange distress flag (day only) or 3 combination day/night red flares. Class I and II - one orange distress flag or 3 hand-held or floating orange smoke signals (day only), and one electric distress light or 3 combination (day/night) red flares, handheld, meteor or parachute (46 CFR 28.145). Refer to Table 6 of this Section for additional guidance
Sound Signaling Device	Whistle, handheld air horn, or electric horn that can be heard at least 1/2 mile for 4-6 seconds (USCG NAV RULES)

Anchor and adequate rode	Required for Class I and II. Class A small boat operating within a shallow river or non-navigable waterway must have a means to secure the boat. Guidance on acceptable ground tackle and mooring line is available on the <a href="#">SBP website</a> (under Best Practices).
Dewatering Device	A mechanical or manual means of dewatering is required for all small boats. On Class I and II small boats with compartments that have through hull fittings below the waterline or spaces below the main deck without watertight closures, these spaces must have an appropriate bilge pump with high water alarm installed at the operator station.
Fire Extinguishers	Marine type USCG approved fire extinguishers minimum requirements: Class A and I - One B-I, Class II - One B-II or two B-I, Fixed Fire system required for enclosed machinery space (approved as additional B-I). Refer to Table 5 of this Section or contact the SBP for additional carriage (46 CFR 181.500)
<b>Visual Identity and Signage</b>	
NOAA Identification and Registration	Must comply with Section 13 of this Manual
Navigation Lights	Must comply with USCG NAV RULES (COMDTINST M16672.2D)
Capacity Label	Permanently affixed (if not installed by the manufacturer, contact the SBP for guidance)
GAR Slate or Placard	Required
Oil and Garbage Placards	Required on all Class I and II small boats. (33 CFR 155.450 and 151.59) Guidance on purchasing placards is available on the <a href="#">SBP website</a> (see Placards Required for Daily Operations).
<b>Documents on File with VOC</b>	Baseline and Mission Risk Assessments, ASBE, SBEX, PQS, SBOM, OEM

Table 3. Minimum Carriage Requirements: Class III and SRVs

*Refer to small boat inspection booklet for specific requirements. These booklets are developed by the SBP and approved by the SBSB.*

Resources to Protect Personnel	
Personal Floatation Devices (PFDs)	Appropriate size and buoyancy for every person aboard with light and whistle. All components must be USCG approved. Refer to Section 10.02 of this Manual for specific PFD requirements. Type I PFD for all personnel in addition to the Type III and V permitted for deck operations
Immersion Suits	Required. Must have USCG approved light and whistle.
Life Raft	USCG approved or meets SOLAS. SRVs must carry SOLAS rafts If operating >50 miles of the coastline SOLAS A is required
Life ring	USCG approved Orange Ring Life (RL) Buoys 24" or greater. At least one life buoy must have a MOB strobe light attached. Class III-One or more RL Buoys. One must have a minimum of sixty (60) feet of rescue line attached. SRV-Three RL Buoys. One must have a minimum of ninety (90) feet of rescue line attached
First Aid Kit	Equipped for area of operation and number of personnel aboard (exposed, remote,...). An example inventory list is available on the <a href="#">SBP website</a> .
AED	Storage location labeled and readily accessible. Requires monthly inspections and trained personnel
Carbon Monoxide Alarm	All small boats with enclosed cabins, number of alarms must protect all spaces occupied by personnel (berthing, galley, bridge...)
MOB Recovery	Recovery device or apparatus aboard and procedure in place for conscious and unconscious victim.
Bridge Requirements	
Chart plotter	Required with the most up-to-date charts and a secondary independent GPS or chart plotter that includes a dedicated antenna
AIS	Small boat registration must be up-to-date
Magnetic compass	Adjusted with current deviation card and validated every 3 years Backup fluxgate/electronic compass recommended with independent backup power
Fathometer	Required, backup unit recommended
Radar	Required, AIS interface recommended
Navigation Charts	Up-to-date, printed charts that provide adequate detail to navigate the area of operation
Navigation Rules	Current electronic or printed version of navigation rules and NOAA U.S. Chart No.1 aboard
Coast Pilot	Current electronic or printed version aboard
Communication	
Two VHF radios with Digital Selective Calling (DSC) capability	Both radios must be mounted, 25 watt with MMSI# entered and connected to GPS input
Cell Phone	Must be within cell range
Email or Text messaging	Within reliable cell phone range or utilizing satellite service (phone, SPOT, EPIRB...)

Satellite Phone	Either satellite phone, SSB radio, or other satellite based communication is required when operating beyond cell phone coverage
Single Side Band Radio	Recommended for small boats operating > 50 miles of the coastline
<b>Damage/ Emergency Response</b>	
Emergency Beacons	One category I (auto deployment) EPIRB must be installed in a float free location. Additional Category II (manual) EPIRBs are recommended
Visual Distress Signals	Meets SOLAS - Three (3) Parachute Flares, Six (6) night flares, Three (3) Smoke Flares
Fire Suppression	Refer to appropriate USCG regulations for small boat class, must meet minimum requirements for fixed and portable fire suppression based on small boat configuration. Refer to the vessel inspection booklet or contact the SBP for additional guidance
Sound Signaling Device	SRV requires 300 mm bell Horn must be heard at least ½ mile for 4-6 seconds
Anchor	Appropriate size for the small boat. Guidance on acceptable ground tackle and mooring line is available on the <a href="#">SBP website</a> (under Best Practices).
Dewatering Devices	Bilge pumps with visual indicator at the operator station or bridge
High Bilge level alarm	Visual and audible indicator at operator station
Emergency Steerage	Required for single engine or single rudder small boats
<b>Visual Identity, Signage and Carried Documentation</b>	
NOAA Identification and Registration	Must comply with Section 13 of this Manual
Navigation Lights	Must comply with USCG NAV RULES (COMDTINST M16672.2D)
SBOM	Maintained aboard
Waste Management Plan/Policy	Located in a visible and accessible area
Oil and Garbage Placard	Located in a visible and accessible area (33 CFR 155.450 and 151.59). Guidance on purchasing placards is available on the <a href="#">SBP website</a> (see Placards Required for Daily Operations).
Baseline Assessment	Aboard and dated with annual review
Marine Sanitation Device	Instruction placard on use and proper disposal
GAR Slate or Placard	Required
Day shapes	Must comply with USCG navigation rules for intended operations



- d) Additional carriage requirements based on operating area and operational risk assessment

Table 4. Operational Matrix for Class A, I and II Small Boats

Use this table to assist with risk considerations and operationally based carriage requirements	A-Protected	A- Near Coastal	A-Coastal	I-Protected	I- Near Coastal	I-Coastal	I- Open Waters	II-Protected	II- Near Coastal	II-Coastal	II- Open Waters
Type I PFDs *	O	O	O	O	O	O	R	O	O	R	R
Immersion Suits **	O	O	O	O	O	O	R	O	O	O	R
USCG or SBP approved Life Raft or IBA *** (46 CFR 28.120)	N	N	O	O	O	O	R	O	O	O	R
Automated External Defibrillator (AED)	O	O	O	O	O	O	R	O	O	O	R
Radar	N	N	O	O	O	O	O	O	O	O	O
Fathometer/Depth Sounder	O	O	O	O	O	O	R	R	R	R	R
Oars/Paddles	R	R	R	R	R	R	R	O	O	O	N
Additional GPS or Chart plotter	N	O	O	O	O	O	R	R	R	R	R
Additional VHF radio	N	O	O	N	O	O	R	N	O	R	R
Satellite Phone	O	O	O	O	O	O	R	O	O	O	R
Emergency Steerage Plan	N	N	N	O	R	R	R	R	R	R	R
Sea Anchor	N	N	O	N	N	O	R	N	O	O	R
Emergency Ditch Bag ****	N	N	O	N	O	O	O	N	O	O	O
MOB - Recovery Procedure	R	R	R	R	R	R	R	R	R	R	R

**R = Required    O = Operationally based    N = Not Required**

*The following Operational Route definitions only apply to this Section*

Protected Bays, Sounds and Rivers (<2 miles shoreline to shoreline with no special hazards)
Near Coastal (< 3miles from a harbor or safe refuge)
Coastal (3-12 miles from a harbor or safe refuge)
Open Waters (beyond 12 miles from a harbor or safe refuge)

\* Immersion suits may be used in place of Type I PFDs

\*\* Immersion suits are always required when operating where SST is  $\leq 59^{\circ}\text{F}$  ( $15^{\circ}\text{C}$ ) based on NOAA's CoastWatch reports (<http://coastwatch.noaa.gov>) or an increased risk of hypothermia exists

\*\*\* A USCG or SBP approved life raft or inflatable buoyant apparatus (IBA) is required. Soft packs are acceptable on class I and II small boats. Raft capacity must be 100% of personnel carried aboard.

\*\*\*\* Suggested items in addition to minimum requirements: Waterproof handheld VHF radio, water, Personal Locator Beacon (PLB), signal mirror, whistle, strobe/flashlight

## .02 Guidance for Personal Flotation Devices and Immersion Suits

This section provides additional guidance for PFDs and immersion suits to help reduce the risk of drowning and increase survivability in warm and cold waters. Cold-water thermal protection requirements are addressed in more detail and are structured to exceed minimum risk controls.

### a) Carriage and Donning Requirement for PFDs

PFD includes work vests, marine buoyant devices intended to be worn, life preservers, life jackets, hybrid PFDs, and inflatable life jackets. PFDs must contain a label stating USCG approval number and type. PFD types are defined in 46 CFR §160 - *Lifesaving Equipment*. Small boats operating from NOAA Ships must comply with the OMAO Small Boat Supplemental for PFD carriage requirements.

Inflatable PFDs are designed to become buoyant either manually, automatically, or both by inflation of a sealed chamber. Inflatable PFDs are not inherently buoyant and therefore must be properly maintained, inspected, and components replaced before expiration dates.

Work vests, float coats/coveralls, anti-exposure suits, dry suit-style, and inflatable PFDs are personally assigned PFDs intended to be worn regularly on a continuous basis. All PFDs must be USCG approved or meet SOLAS. Units that issue Type III or V PFDs provide oversight to assure PFDs are serviced and that time sensitive components remain current. Only PFDs under the oversight of the VOC may be considered part of the lifesaving carriage requirements. Type III and V PFDs do not replace additional required lifesaving requirements (e.g., immersion suits, Type I PFDs).

- All persons must wear an appropriately sized and fitted approved PFD at all times and in all waters (except as stated in Section 10.02.f of this Manual).
- Personal Type III and Type V PFDs, not issued by the government, are authorized. They do not count towards the posted minimum carriage requirement
- PFDs must be properly sized for the wearer, and for the operational and environmental conditions
- PFDs must be fitted with a light and a whistles
- PFDs must be maintained in a serviceable condition, per manufacturer or USCG instructions;
- Risk management should be used to determine additional PFD requirements for all operations.

### b) Anti-Exposure wear

Make readily available for all personnel working on weather decks, if not already

used as a PFD, an approved PFD that offers both thermal protection and flotation. This includes anti-exposure suits, float coats, and dry suits.

An anti-exposure suit (including float-coveralls) is a protective suit (which is an approved Type III or Type V PFD when worn) designed for use in general cold-weather.

#### c) Cold Water Exposure

Cold waters are defined as operational waters where the surface temperature is 59° F (15° C) or colder. Use NOAA's CoastWatch reports (<http://coastwatch.noaa.gov>) to determine real time water temperature. Provide cold water protection whenever operational risk analysis reveals an increased risk of hypothermia. Consider distance from shore, time to rescue, and air temperature in addition to water temperature.

An immersion suit is a protective suit that when worn reduces loss of body heat of a person in cold water. Immersion suits are also known as "survival suits." All immersion suits used on NOAA boats must be USCG approved and/or meets SOLAS per 46 CFR §160.171 - *Immersion Suits*.

- If immersion suits are required to be carried onboard and intended to be worn by untrained personnel onboard in an emergency, adequate training and familiarization drills are required before departure, including donning of a suit.
- The OIC or VOC ensures all persons have adequately sized PFD's and immersion suits before departure. Size limitations are provided on each piece of lifesaving equipment for reference.

#### d) Type I PFD and Immersion Suit Stowage.

- Type I PFDs and immersion suits must be stowed and readily accessible. When applicable they should be distributed throughout small boat (e.g. berths, mess, working spaces, or on deck) and accessible for donning in a reasonable amount of time during an emergency.
- Do not put Type I PFDs and immersion suits in deck containers that can be locked.
- Type I PFDs and immersion suits stowed overhead must be supported in a manner that allows quick release for distribution.
- Type I PFDs and immersion suits must be clearly visible. If stowed in a locker, under seats, or in a small compartment, clearly label the PFD and immersion suit with the number, type, and size of device within (e.g., 5 Immersion Suits – 3L / 2M). Do not stow PFDs in plastic bags, locked compartments, or with other gear stowed on top of them.
- Mark and stow child size PFDs (for persons weighing less than 90 lbs.) in a location separate from adult PFDs so the child size PFDs are not mistaken for adult size PFDs.

- Stow Type III and V PFDs separate from the required primary Type I PFDs.

e) PFD and Immersion Suit Requirements

- PFDs and immersion suits must be equipped with USCG approved light and whistle that are mounted to resist snagging.
  - Replace alkaline batteries in lights annually, no more than 1 year from the date installed. Date of installation must be recorded.
  - Replace lithium batteries in lights every 5 years from the date installed. Date of installation must be recorded.
  - Disposable lights must be replaced prior to the expiration date.
- Permanently mark PFDs and immersion suits with at least one of the following: the small boat's name, NOAA hull registration number (e.g., R6201), the word "NOAA", the NOAA emblem, or the operating organization (e.g., FKNMS, NRT 1, etc.).
- Inspect, test, and maintain immersion suits per U.S. Coast Guard Navigation Inspection Circular (NVIC) 01-08. Air test suits for leaks at least once before the 10<sup>th</sup> year from the manufacturing date stamped inside the suit. Test suits more than 10 years old every 3 years or more frequently as deemed necessary by the VOC or OIC until suit is unserviceable. Additional guidance is available as Vessel Inspection Bulletins, available on the [SBP website](#) (under Vessel Inspection Bulletins section).

f) Exceptions for Wearing PFDs

- Diving – PFDs are not required to be worn by divers when they are dressed in diving gear providing positive buoyancy.
- Enclosed Spaces – PFDs are not required to be worn when a person is inside an enclosed cabin or spaces.
- Bulwarks and Rails – PFDs are not required to be worn by persons on deck when **all** of the following conditions are met:
  - The OIC grants permission not to wear a PFD on deck.
  - The person will not engage in the small boat's mission in a scientific or crew capacity.
  - The person will not be in close proximity to areas where operations are being conducted onboard or over the side of the small boat.
  - The small boat deck is configured with exterior rails or bulwarks that are at least one meter (39.5 inches) high.
  - In the case of rails, the courses of rails (or equivalent chains or wire) are installed such that no open vertical space exists that is more than 12 inches.

.03 Inflatable Life Rafts (ILR) and Inflatable Buoyant Apparatus (IBA)

SOLAS A and B ILRs are self-contained inflatable rafts with insulated floors, full canopy, hydrostatic release, and are packed in a hard case. These rafts contain

additional survival equipment that meet the requirement found in 46 CFR 160.151 – *Inflatable Liferafts (SOLAS)*. SOLAS B ILRs are restricted to 50nm offshore and do not contain food or water and carry half of the visual distress signals of a SOLAS A ILR.

USCG-approved coastal life rafts are compact rafts that lack provisions for long term survival and are not constructed to the same strict standards of SOLAS approved rafts. On coastal rafts, the freeboard is typically less, floor is often a single, un-insulated layer, and the boarding ladder may be merely webbing.

An IBA is a self-contained inflatable platform or raft, with or without a canopy, is packed in a hard case or valise (soft sided bag). IBAs meet the packed item requirements found in 46 CFR 160.010-3 – *Inflatable Buoyant Apparatus*.

When small boat class or operations require an ILR, rafts must be either USCG or SOLAS approved and suited for the intended operational area. All SRVs are required to carry either a SOLAS A or B raft regardless of the area of operations.

All small boats operating > 50nm offshore must carry a SOLAS A ILR.

USCG approved IBAs are acceptable for additional persons carried during media events or outreach programs as long as the small boat maximum carrying capacity is not exceeded.

Approved inflatable life rafts and inflatable buoyant apparatus are required to be serviced periodically at an approved servicing facility. The first servicing of a new raft is 24 months after it is first packed. After that, servicing is normally every 12 months.

#### .04 Emergency Radio Beacon

NOAA SBP recognizes three types of emergency radio beacons:

- EPIRB:
  - Category 1 – float free mounting
  - Category 2 – not float free
- PLB

Register all radio beacons with the NOAA Search And Rescue Satellite Aided Tracking program and maintain registrations current. Test radio beacons monthly when the small boat is in service. In addition, review EPIRB beacon identification registration information at least annually to ensure emergency contact information is still valid.

#### .05 Ring Life Buoy and Water Light Considerations

A ring life buoy (RLB) is an inherently buoyant, type IV PFD that does not rely on any chemical mechanism or operator action to provide buoyancy. RLBs must be the

appropriate size bases on the small boat class, orange in color, and USCG or SOLAS approved. Clearly mark each buoy with reflective tape and mount in a readily accessible area that allows for rapid deployment. Inspect all RLBs annually for deterioration and replace if the material is split, badly faded, or if grab lines appear weakened.

A USCG or SOLAS, waterlight (46 CFR 161.010 – *Floating Electric Waterlight*), when used, must be attached to the RLB with a corrosion resistant clip that can be easily disconnected or with 3 – 6 feet (91-183 cm) of line. Line should be UV resistant and constructed for use in the marine environment. Lights must be self-righting and cannot hinder the deployment of the RLB.

## .06 Fixed Fire Extinguishing Systems

Small boats equipped with a fixed gas extinguishing systems must have the system inspected annually (not more than 1 year from the previous certification) and certified using the appropriate National Fire Protection Association (NFPA) references. An inoperative or expired service interval of a fixed gas system, regardless of whether required to be installed or not, results in a Category 1 deficiency and the boat may not operate until corrected. Small boats with a fixed gas system installed by the manufacture must preserve and maintain the system or be subject to a Category 1 deficiency. For small boats that do not have a fixed gas firefighting system installed and it is determined using 46 CFR 181.400 - *Fixed Fire Extinguishing and Detecting Systems* that one is required, every effort is made to have a system installed as soon as possible. All service, repair, and installations of fixed gas fire extinguishing systems must be performed a NFPA certified technician.

Table 5. Portable Fire Extinguisher Minimum Requirements

Portable Fire Extinguisher Minimum Requirements (46 CFR 181.500(a))				
For guidance concerning applicability contact the SBPM.				
Space protected	Required	Type	Class	Size
Operating Station and/or Open Console	1	B-I, C-I	CO2 or Dry Chemical	1.8kg (4 lb) or 0.9 kg (2 lb)
Enclosed Machinery Space (if applicable)	1	B-II, C-II located outside exit	CO2 or Dry Chemical	6.8 kg (15 lb) or 4.5 kg (10 lb)
Accommodation/Berthing Space/Cuddy Cabin (if applicable)	1	A-II	Foam or Dry Chemical	9.5L (2.5 gal) or 4.5 kg (10 lb)
Galley/Pantry/Cooking Areas (if applicable)	1	A-II, B-II	Foam or Dry Chemical	9.5L (2.5 gal) or 4.5 kg (10 lb)

Table 6. Visual Distress Signals

<b>VISUAL DISTRESS SIGNALS (46 CFR 28.145)</b>	
<b>Area</b>	<b>Devices required</b>
Greater than 50 miles from coastline.	3 parachute flares, approval series 160.136, or SOLAS; <i>plus</i> 6 hand flares, approval series 160.121, or SOLAS; plus 3 smoke signals, approval series 160.122, or SOLAS.
3-50 miles from the coastline	3 parachute flares, approval series 160.136, 160.036, or SOLAS; plus 6 hand flares, approval series 160.121, 160.021, or SOLAS; <i>plus</i> 3 smoke signals, approval series 160.122, 160.022, 160.037, or SOLAS.
within 3 miles of the coastline.	Night visual distress signals consisting of one electric distress light, USCG or SOLAS approved, or 3 approved flares; <i>plus</i> Day visual distress signals consisting of one distress flag, USCG approved, or 3 approved flares, or 3 approved smoke signals.

## .07 Personal Protective Equipment and Clothing

Personal Protective Equipment (PPE) must:

- Comply with the applicable standard (see Executive Order 12196 – *Occupational Safety and Health Programs for Federal Employees*);
- Fit properly;
- Be stored in a convenient location that is safe from adverse conditions that could damage the equipment; and
- Be used per the manufacturer’s recommendation for the equipment being used.

All persons aboard small boats must, at all times, wear mission appropriate protective foot protection, hard hats, eye and face protection and hand protection.

## **SECTION 11      EMERGENCY READINESS**

The safety of personnel and small boat integrity are the primary focus of the SBP and must be the highest priority of small boat operators and crew. The hazards presented by the marine environment, weather, and mission operations are dynamic and often unpredictable. It is critical that small boat crews are prepared to respond to emergency situations.

The nature of the small boat fleet presents additional challenges associated with the diversity of platforms, onboard resources, frequency of use, rotation of crews, and the skills and handling of embarked mission personnel.

Effective emergency response under adverse conditions is best achieved through a planned progression of frequent training exercises, pre-mission briefing, and underway drills.

These efforts provide opportunities to educate, practice, and critique standard response procedures and review the use of onboard resources and emergency gear.

### **.01      Responsibility**

The VOC is responsible for establishing specific emergency procedures for their small boats and recurring training for their operational unit that best address the nature of operations, small boat complexity and the skills of embarked personnel. The VOC must maintain records of these efforts and participants.

The OIC is responsible for conducting pre-mission briefings that detail the emergency roles and duties for all embarked personnel, including the location and use of safety and response gear.

The OIC is responsible for conducting the required drills and training, and a follow-up debrief that includes critiques and implementing corrective actions, and recording all details in the small boat log book, float plan or training log.

The OIC is responsible for inspecting and testing all onboard safety gear and systems that support emergency response and survival per the manufacture's requirements.

### **.02      Emergency Response Plan Requirements**

The VOC identifies required resources and training to support effective emergency response. The plan is tailored to best reflect the unique operations, complexity of the small boats, required personnel skills, and the most probable hazards encountered.

This plan should include the following elements:

- Refresher safety training such as, but not limited to: classroom instruction, training videos
- Hands on training exercises such as, but not limited to: launching flares, donning Immersion Suits, parking lot trash can fire demonstration
- Small boat orientation briefs



- Drill requirements
- Boat-specific emergency procedures

Emergency response plans may be developed for a group of similar small boats or be small boat specific to best reflect both complexity and crew familiarity. Plans developed for smaller, less complex platforms should focus on personnel skills training. Larger, more complex platforms require detailed emergency procedures focusing on operation and deployment of emergency equipment and specific duties assigned to personnel during an actual emergency.

### .03 Response Training and Emergency Procedures

Emergency response training is formal instruction of the embarked personnel on how to recognize hazards, execute the emergency procedures, and utilize emergency response gear. Initial SBO qualification training requirements (see Section 6.01) is best reinforced by frequent safety refreshers and hands on training exercises and drills.

Emergency response is best reinforced by frequent recurrent training and hands on exercises. Training media and exercises can be provided in a format to suit mission personnel, project preparation, and field schedules. Effective safety refresher training includes utilizing local unit instructors and platforms, subject matter videos, group discussion of emergency scenarios, and hands on exercises. Deployment of expired flares and rafts, use of fire extinguishers, and wet exercises with immersion suits or PFD's are effective training opportunities and should be incorporated when practical.

Included in this instruction should be applicable boat-specific emergency procedures. Each field office must develop these emergency procedures for applicable emergency situations such as, but not limited to:

- Abandon Ship
- Fire Fighting Procedures
- Man Overboard and Recovery
- Flooding, Damage Control and Stability
- Cold Water Survival
- Launching a Raft
- Donning Immersion Suits and PFDs
- Making Distress Calls and Using Distress Signals
- Spill Response
- Medical Emergency

### .04 Pre-mission Brief – Orientation

Familiarization with the small boat, including safety gear and support resources, is required to be provided during the pre-mission brief. In addition to reviewing the GAR and mission plan, the OIC must brief all embarked personnel on:

- Location of PFD's, fire extinguishers, liferafts and IBA's, first aid supplies, ditch bag
- Emergency alarms and communication.
- Emergency muster locations and gear to be assembled
- Accounting for personnel
- Roles and responsibilities for crew and scientists
- Communication resources – VHF, EPIRB, flares
- Medical Emergencies, First Aid and resources

An example template of a Safety Orientation Briefing checklist is available on the [SBP website](#).

## .05 Emergency Exercises and Drills

Due to the diversity of the fleet and skillsets of embarked personnel below describes the minimum emergency exercises and drill requirements. Operating units should choose additional boat and mission specific activities to best prepare personnel and small boats for potential emergencies.

It must be recognized that training, orientation and hands on exercises increase the value and effectiveness of underway drills. Emergency response on smaller boats is heavily dependent on personnel skill sets and should be addressed with more frequent hands on exercises to allow for practice and acquired proficiency. Emergency response on larger more complex boats is influenced more by team coordination and installed systems and may require more in-depth orientation.

- a) Training exercises allow participants to practice skills, trial gear deployment, gain familiarity and improve proficiency in a controlled, low risk environment. The controlled environment may be dockside, calm shallow water, or simulated situations.

Required elements of Emergency Training:

- Engagement of all persons
  - Low risk conditions that introduce real world hazards
  - Allow for hands on experiences, feedback, and instruction
  - Assessment of the participant skill and familiarity
  - Record of training; persons involved, date and topics covered
  - Debrief, critique and follow-up corrective actions
- b) Drills are conducted to evaluate the proficiency level of embarked personnel and the availability, condition and use of onboard resources. Drills also test the on board resources, personnel response, coordination, and adherence to established protocols. Drills should be conducted moored and underway, and must reflect real-world situations and the complexities posed by mission, environment, small boat operation, and embarked personnel. All drills are evaluated using the small boat's emergency procedures. In addition to crew proficiency, the emergency procedure is evaluated for effectiveness and modified by the OIC accordingly.

**Required Elements of an Emergency Drill:**

- Engagement of all Persons on Board
- Underway and under actual emergency conditions as practical
- Demonstrated leadership of OIC
- Demonstrate communication between the OIC and crew
- Accessing and testing (or simulation) of all support gear and equipment
- Notification / communication of emergency situation
  - Onboard - Initial notification of the emergency to the OIC
  - Ashore - External communications to shore based resources
- Record of drill; persons involved, date, duration, and response time
- Debrief and critique of exercise
- Critique and follow-up corrective actions

**c) Frequency of drills**

Because drills are an evaluation of both crew proficiency and small boat readiness, frequencies should be adjusted to optimize crew involvement and assure frequent exercise of onboard gear. Seasonal programs, occasional small boat usage, and rotating crews pose a challenge to a prescribed drill frequency or schedule.

However, VOCs must ensure all operators and crew get the opportunity to participate in applicable drills at a minimum annually. Frequencies should be increased with personnel turn over and small boat usage as these conditions can increase hazard exposure.

Drills are not required if the small boat is not in use, or has been made inactive in Vessel Inventory Management database (VIM). Upon reactivation, small boats must complete the required drills immediately before the next operational mission to ensure proficiency of the operator and crew and the status of safety gear and systems.

The following table is a list of the minimum required topics and frequencies to be addressed for all Class III and SRV's. NOTE: OIC's aboard more complex small boats are highly encouraged to increase frequency as appropriate.

Table 1. Class III and SRV's emergency topics and frequencies

<b>EMERGENCY</b>	<b>QUARTERLY</b>	<b>ANNUALLY</b>
Fire (motorized small boats)	X	
Abandon Boat Liferaft / IBA deployment Immersion Suit and PFD Type I donning	X	
Man Overboard Recovery	X	
Emergency Communications and Visual Signaling	X	
Flooding / Swamping /Damage Control	X	
Loss of Steering		X
Diver Accident (if conducting dive ops)		X
Spill Response		X
Medical Emergency, First Aid		X

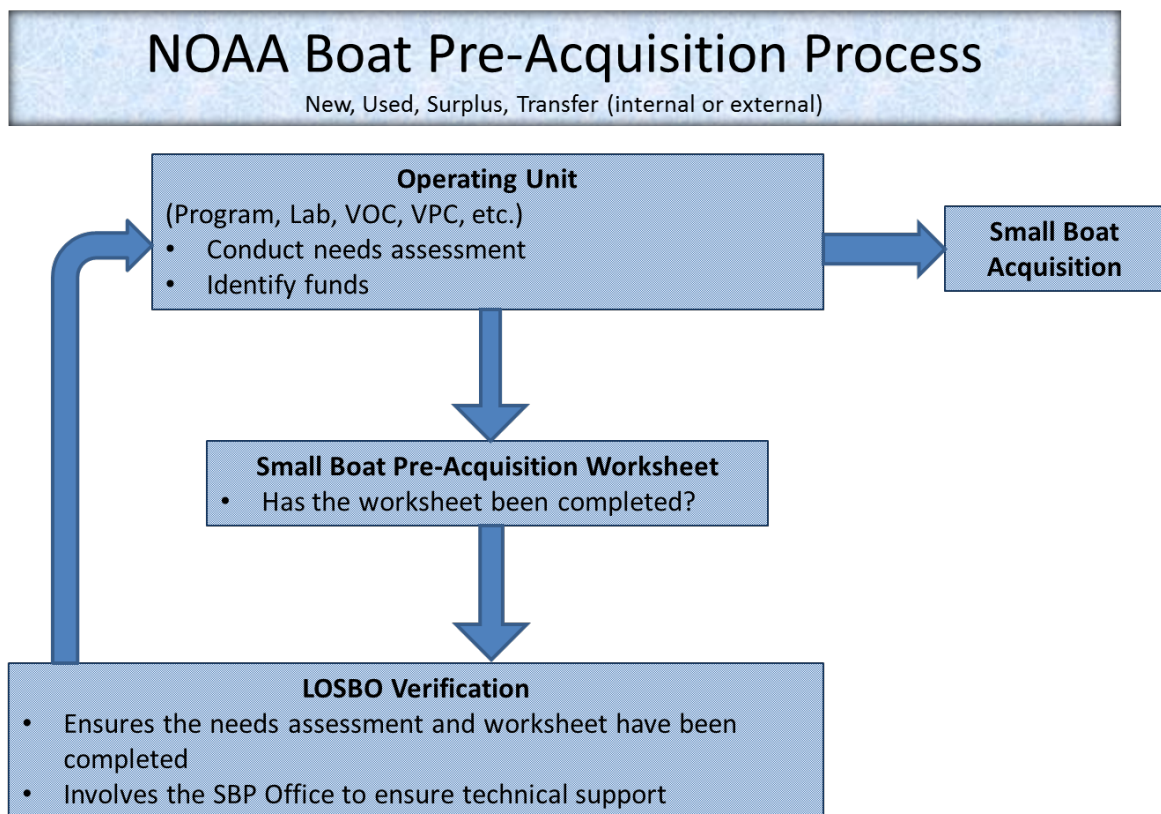
## SECTION 12 ACQUISITIONS, ALTERATIONS AND DISPOSAL

### .01 Acquisition of New, Used, Surplus or Transferred Small Boat

Program Directors (or designee) must assess the suitability of a new or used small boat in regards to design, construction, total cost, operational routes, mission requirements, risks, safety, and environmental compliance before initiating a small boat acquisition.

The review process is required for any new, used, surplus, or transferred acquisitions to a Line Office or Program. The evaluation is to assure boats added to NOAA's fleet are constructed to industry standards and fulfill the safety requirements of the SBP. The intent is not to approve or disapprove a program's platform request, but to provide guidance and assistance in selecting a small boat best suited for the operational area and intended purpose. The program is sensitive to the procurement process and every attempt is made to turn around the request in a timely manner.

Chart 1. Flowchart for small boat acquisitions



The flowchart outlines the initial steps required by Operating Units preparing to acquire a small boat. Review and complete the pre-acquisition worksheet (available on the [SBP website](#)), for any new or used boats the program plans to acquire.

The worksheet is submitted to the LOSBO. The LOSBO may then seek technical support regarding construction, subdivision, and stability standards. Findings from the

LOSBO's review must be submitted back to the operating unit for the Unit's consideration.

a) Considerations for Custom Designs

LOSBOs (or designee) ensure that contract specifications are written or reviewed by a professional marine engineer, or naval architect, or/and the SBP. The engineering review ensures that the small boat will be properly configured in accordance with all applicable standards in the Code of Federal Regulations, and the requirements of this Manual.

b) Considerations for Existing Platforms

A survey conducted by the SBP or a Certified Marine Surveyor may be prudent for an existing small boat, before acquisition. The marine survey can be beneficial in determining the condition and estimated life cycle of the boat as well as the structural integrity and safety for its intended use.

.02 Considerations for Alterations and Modifications

Significant alteration or modification is a change to the original configuration of a boat with regard to structural, mechanical, or electrical systems.

Examples of significant alterations include but are not limited to (exception: like-and-kind replacement):

- addition of structures or winches,
- addition of any weight handling gear (e.g., A-frame, crane, and articulated boom),
- replacement of propulsion engines,
- installation of electric generators,
- lengthening of a small boat, or
- addition of a bow pulpit

The Program Director or VOC review significant proposed modifications to small boats to assess their potential impact on the safety and mission of the boat. Program Directors, VOC's, or Line Office Engineers notify the LOSBO and SBPM to make sure work will be done per the rules, regulations, and NOAA policies, applicable to the particular class of small boat. Modifications and repairs are performed per all applicable standards in the Code of Federal Regulations, and the requirements of this Manual.

Records, such as drawings or weight and moment reports, resulting from the alteration of boats is maintained at the appropriate program office and copies are provided to the SBP when requested.

.03 Property Disposal

The VOC must change the status of small boat in VIM. Disposal of small boats, engines, trailers, and equipment must follow Personal Property Management Branch, NOAA National Disposal Plan

[http://www.pps.noaa.gov/excess\\_disposal\\_board\\_of\\_review](http://www.pps.noaa.gov/excess_disposal_board_of_review).

Before sale or disposal, ensure all identifying stickers, emblems, NOAA hull numbers, and other forms of identification are removed. Unregister any safety equipment such as EPIRBs and DSC radios.

## SECTION 13 VISUAL IDENTIFICATION AND REGISTRATION

A uniform identification scheme is necessary to develop and promote public recognition of small boat activities. A uniform numbering system is required by U.S. Code for the purpose of identification. All NOAA small boats must comply with the visual identification and registration requirements specified in this Manual. NOAA Small Boats are government assets and must maintain a positive public image.

### .01 Responsibility

The SBPM is responsible for issuing hull-registration numbers. Programs that own small boats must:

- Comply with the visual identification guidelines listed in this Manual; and
- Register any new small boat or existing small boat not already registered by submitting a completed [Hull Registration Number Request](#) (NOAA Form 57-19-03).
- Enter any new small boat or existing small boat not already listed in the [Vessel Inventory Management database](#).

### .02 NOAA Hull-Registration Numbers and Trailer License Plates Registration

Registration numbers are composed of up to six characters. The first character is a letter and assigned as follows:

First Character	Description
F	Any boat assigned to NOAA National Marine Fisheries Service
S	Any boat assigned to NOAA's National Ocean Service and primarily engaged in hydrographic survey.
R	Any boat assigned NOAA's Oceanic and Atmospheric Research or NOAA's National Ocean Service and primarily engaged in research.
None	Any boat assigned to a NOAA's Office of Marine and Aviation Operations



The first and second number corresponds to the length overall of the small boat measured in feet and rounded down to the nearest whole foot length.

The third, fourth, and optional fifth numbers are determined by the SBPM and assigned in sequential order. The optional sixth digit may be utilized when inventory in a specific length category exceeds 99 total boats.

Any small boat that is internally transferred between Line Offices must be re-registered through SBPM.

The SBP has no registration process for trailers. Government trailers require a General Service Administration (GSA) plate, which are requested through the local property contact who handles Government Owned Vehicles (GOVs). SBP track trailers through the Annual Trailer Evaluation (ATE) form.

### .03 Visual Identification Scheme

#### a) NOAA Emblem and Registration Number Display

Display of the NOAA emblem promotes public awareness of NOAA programs and is displayed in the following manner:

- All small boats must display the registration number on the port and starboard bow.
- Small boats may also display the boat's name on the port and starboard bow. If displayed, the name must be above the registration number, in a similar sized font. The name and number are left justified on the port bow and right justified on the starboard bow.
- On small boats without a cabin, deck house, or steering console, NOAA emblems are placed on the forward portion of both the port and starboard bow. Position with the small boat name and NOAA registration number.
- On boats that have a cabin, deck house, or a steering console, the NOAA emblems are placed on both the port and starboard side of either the cabin, deck house, or console at a location that is least obstructed from a clear broadside view. Emblems should be as large as possible for the available surface area.
- On small boats that have a cabin, deck house, or steering console, additional NOAA emblems may be displayed on the port and starboard bows. If displayed, the emblems must be positioned with the small boat's name and NOAA registration number.
- Boats with a full and unobscured transom may display the NOAA emblem and registration number on the transom. Emblems should be as large as

possible for the available surface area and account for the area required for the hull-registration number placement below the emblem.

- Boats with split transoms may display the NOAA emblem offset to one side. Emblems should be as large as possible for the available surface area and account for the area required for the hull-registration number placement below the emblem.

## b) Boat Name and Hull-Registration Number Convention

Boat name and hull-registration numbers are:

- Block-shaped capital letters in sans-serif (Arial) type font;
- Of a color providing contrast with the background hull color, usually black; and,
- Sized as follows:

Small Boat Category	Letter Size
Class A	3 inches
Class I	3 inches
Class II	3-6 inches
Class III	6 inches
SRV	9 inches

## c) Color Scheme

Small boats should follow a white color scheme. Other colors are allowed, as long as the color scheme remains durable, serviceable, and presents a positive public image. Aluminum hull or structures are not required to be painted.

## d) Specific Boat Marking

Line Offices and Programs may develop specific boat-marking schemes and graphics. Specific boat-marking schemes must not infringe upon, be similar to, or be able to be construed as being similar to any existing small boat-marking schemes in use by any small boat, or fleet of small boats, either public or private.

## .04 Examples of Small Boat Visual Identifications

Figure 1: Example of visual identification for small boats without a cabin, deck house, or steering console

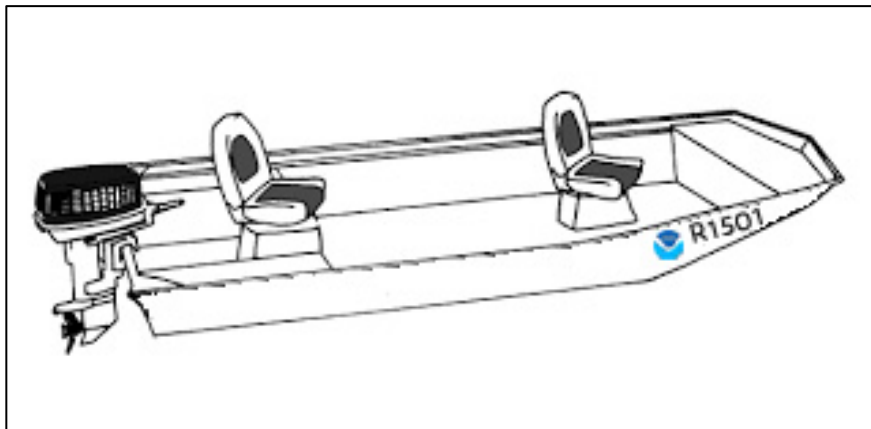


Figure 2: Example of visual identification for small boats with a steering console



Figure 3: Example of visual identification for small boats with deck house

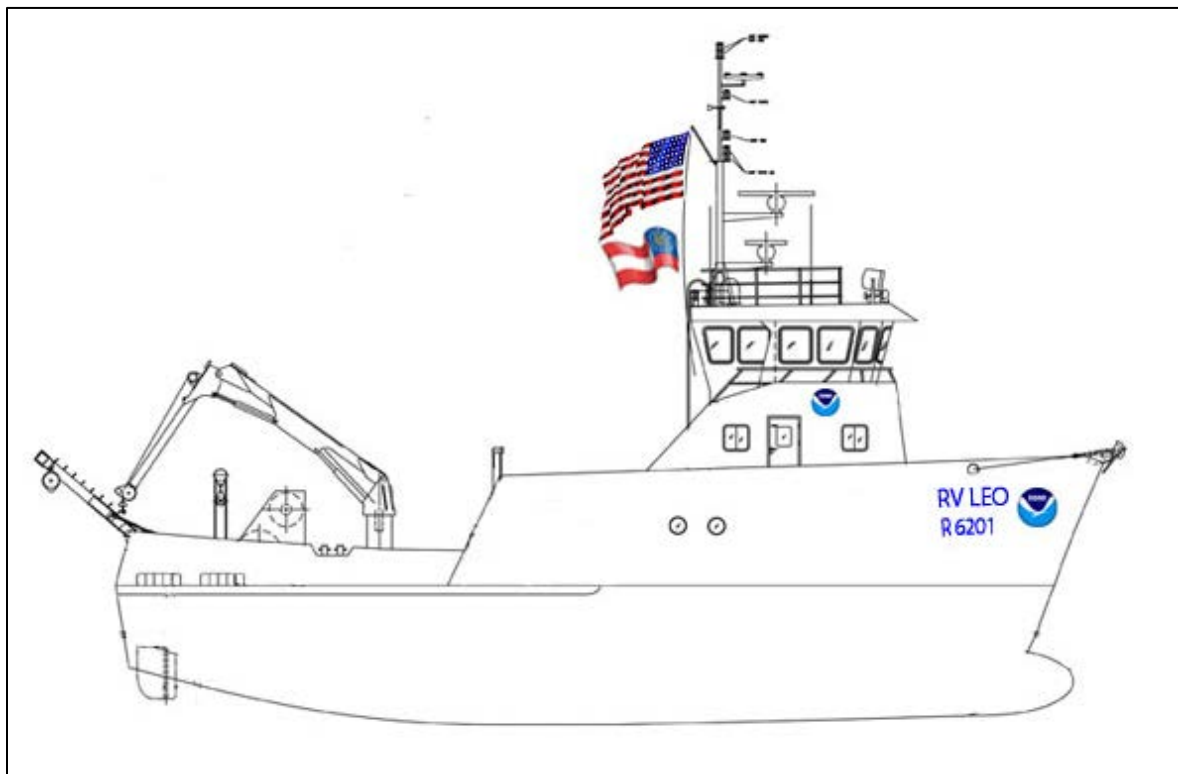


Figure 4: Example of NOAA emblem centered on transom



Figure 5: Example of NOAA emblem offset on obstructed transom



Figure 6: Example of NOAA emblem offset on transom due to obstruction by gear



Figure 7: Example of Line Office or Programmatic markings



#### .05 Flags

NOAA small boats are allowed to display the United States ensign, national flags, the NOAA flag, state flags, and the flags of partner agencies. Small boats must follow proper etiquette for all flags being flown.

#### .06 Exemptions

Requests to exempt a small boat from the rules of this Section or to deviate from the standards must be transmitted to the LOSBO for review and action by the SBSB.

a) Inflatable Boats

Inflatable boats are exempt from the visual identification requirements; however, every attempt should be made to comply with the identification requirements where practicable.

b) Imminent Danger

Exemption from the visual identification requirements may be granted by the Program Director, on a temporary basis, for boats when a significant hazard to the boat or its complement is probable or perceived due to unpopular public opinion caused by NOAA regulation or policy. After the perceived or possible threat has passed, restore the boat to the visual identification requirements of this Manual as soon as possible.

## SECTION 14      INSPECTIONS

The Small Boat Inspection Program is designed to ensure that safety standards are maintained to minimize risk. In addition, NOAA SBP has supplemental lifesaving requirements that combined with Subchapter T, as applicable, to provide high level of safety and risk reduction. Other applicable Subchapters and USCG Navigation and Vessel Inspection Circulars (NVIC's), are incorporated by reference throughout Subchapter T.

This Manual states the minimum requirements for all small boats. All equipment must be maintained in an operational status and inspected per this Manual, best management practices, and guidance from manufacturers. If the standards and procedures outlined in this Manual cannot be met, the VOC may request a waiver per Section 3.12 of this Manual.

### .01      Responsibility

The VOC ensures all required inspections are properly conducted. VOCs will make sure that all required inspections are reported to their VPC, LOSBO, and the SBP.

The LOSBOs are responsible for conducting an oversight review of all annual inspection of small boats within their line office.

The SBP Inspection Coordinator conducts oversight of the Small Boat Inspection Program.

### .02      Examination Procedures for Class A, Class I and Class II boats and boat trailers

#### a)   Annual Small boat Evaluation (ASBE)

The VOC ensures Class A, Class I, and Class II ASBEs are performed on an annual basis. The inspection must be performed using the ASBE checklist and outline. The [Annual Small Boat Evaluation/Small Boat Examination for Non-Motorized Class A & I checklist](#) (NOAA Form 57-19-05), the [Annual Small Boat Evaluation/Small Boat Examination for Class A, I, II checklist](#) (NOAA Form 57-19-01), and the [ASBE outline](#) are available at the SBP website.

Completed ASBE forms are submitted via the [Vessel Inventory Management](#) database.

#### b)   Annual Trailer Evaluations (ATE)

The VOC ensures ATEs are performed on an annual basis. The inspection must be performed using the ATE checklist and outline. The [Annual Trailer Evaluation checklist](#) (NOAA Form 57-19-02, available on the SBP website) is available on the SPB website. The ATE may also be performed by a professional trailer servicing facility.



Completed ATE forms are submitted via the [Vessel Inventory Management](#) database.

c) Small Boat Examination (SBEX)

SBEX must be performed by one of the following:

- The SBP Inspection Coordinator or Engineering Coordinator. VOC contacts the SBP Inspection Coordinator to schedule a mutually acceptable date and time for an inspection.
- An SBP designated SBEX inspectors. A list of designated inspectors is available on the [SBP website](#) (see Biennial and Triennial Inspections)
- A certified marine surveyor, using the ASBE checklist

SBEX frequency is as follows:

- Class II boats biennially (every 2nd year)
- Class I boats triennially (every 3rd year)
- Non-motorized canoes, kayaks, rafts and rowboats and Class A boats do not require SBEXs

SBEX performed by a NOAA inspector will replace the annual ASBE for that inspection year/period. Any SBEX performed by a certified marine surveyor will not be credited as an ASBE unless the VOC (or a designee) participates in the inspection and ensures all elements of the ASBE checklist are completed.

d) Completed ASBE, SBEX, and ATE Reporting

The NOAA inspector or hired surveyor signs completed evaluation/examination checklists, reports, records of findings, and recommendations and forwarded to his/her VOC. The VOC signs and retains a copy before forwarding to his/her approving official a defined by the LOSBO. The VOC must submit the signed copy to [Vessel Inventory Management](#) database.

e) Exemptions

All OMAO Small Boats aboard NOAA Ships, including rescue boats operating perform an ASBE using the ASBE checklist and adhere to the OMAO Supplemental Small Boat Policy. SBEX for OMAO small boats attached to NOAA ships are performed by the Fleet Inspection Team during annual fleet inspection.

.03 Inspection Procedures for Class III and SRVs

The inspection regulations used for NOAA Class III and SRVs are derived from 46 CFR Subchapter T. This Subchapter provides the greatest spectrum of applicability and appropriate safety level as determined by the SBSB for NOAA's operations. Subchapter T provides equipment and construction elements that will increase the survivability of the small boat and its personnel during catastrophic events.

a) Scheduling Inspections

The VOC of a Class III or SRV contacts the SBP Inspection Coordinator to schedule a mutually acceptable date and time for an inspection. A confirmation of the upcoming inspection is provided to the VOC approximately one month before the agreed-upon date.

b) Pre-Inspection and Records

When the Inspection Coordinator arrives on site, a pre-inspection meeting is held to discuss logistics and other inspection-related matters. Small boat documents and records must be ready and made available to the inspector for examination.

c) Inspection

The scope of the inspection is to determine that the small boat has been operated in compliance with the Manual since the last inspection, and if the small boat will continue to do so safely until the next inspection. The inspection booklet for Class III and SRV is available on the [SBP website](#).

The VOC (or designee) and OIC must attend the entire inspection. The small boat will be made available for the entire day of the scheduled inspection. The OIC will be asked to demonstrate that all navigation and communication equipment functions properly and specific required equipment functions properly on (any installed) emergency power. The OIC will also be asked to perform dockside engine, bilge pump, fire pump (if installed) and generator tests. Due to these requirements, it is expected that the small boat will be in an “operational” status. If the small boat is in drydock, the inspection will be modified accordingly. Testing “fixed bilge systems” with a central pump and manifold will require adding fresh water to a compartment bilge to demonstrate that the system will take direct suction. If for some reason the small boat is “non-operational” before the inspection, the Inspection Coordinator must be notified immediately to determine if the inspection will take place or be rescheduled.

d) Drills

All small boats must get underway for drills, to demonstrate crew proficiency and evaluate the effectiveness of the training program with the exception of the small boats in drydock. Drill proficiency is evaluated against the emergency procedures in the SBOM. In all cases, the OIC has the final decision as to whether the small boat gets underway taking into consideration the weather, manning, and operational risk assessment. If it is decided that the small boat is incapable of conducting drills, the reason is documented in the inspection report. In some locations, one set of drills will be performed on one small boat if several small boats are of the same type or nearly identical. The remaining small boats may conduct dockside machinery trials at the inspector’s discretion.

## e) Deficiencies

Any deficiencies found will be issued as:

- Category 1 deficiency, which represents a significant risk to personnel, property, or the marine environment. These deficiencies are reported to the SBSB by the Inspector (or designee) the day of the finding. On discovering a Category 1 deficiency, the Inspector may issue a “No Sail” order, depending on the equipment affected by the failure. A listing of common Category I deficiencies is available on the [SBP website](#).
- Category 2 deficiency, which represents noncompliance with this Manual and must be resolved within the time frame established by the inspector.

Deficiencies are issued before the inspector’s departure, and acknowledged by signature of the VOC (or designee). In some cases further evaluation, included in the deficiency form, may be required to clarify a deficiency.

## f) Category 1 Deficiencies and “No Sail” Order

The Inspection Coordinator and Engineering Coordinator have the authority to prevent any small boat from operating if the small boat has a Category 1 deficiency.

Reporting Category 1 deficiencies:

The issuing Inspector notifies the SBSB of all Category 1 deficiencies via a group email message. Upon receiving a Category 1 deficiency, the accountable LOSBO responds to the email copying all SBSB members and either “concur” or “not concur” with the Category 1 designation. All other SBSB members must respond to the initial message to acknowledge receipt of the message.

Clearing a No-Sail Order:

No-Sail Orders must be cleared by the issuing inspector before the small boat returns to service. This is accomplished by providing all required information directly to the issuing inspector. The No-Sail Order is cleared in writing before the small boat returns to service.

Appealing a No-Sail Order:

If the LOSBO does not concur with a No-Sail Order, the LOSBO may appeal the issue to the SBSB for a final decision. During this appeal the SBSB and SBP will support and enforce the No-Sail Order until the issue is fully resolved, either by correction of the deficiency or through the SBSB’s appeal to downgrade the deficiency.

If the LOSBO does ‘not concur’ with the Inspector’s Category 1 designation, a follow up email to the attending inspector is sent as soon as practical, providing

any supporting documentation and reasons for the disagreement. The Inspector and LOSBO will continue to communicate via email, copying all SBSB members.

If the Inspector and LOSBO cannot come to agreement, or if an interpretation of policy is required the issue is resolved by the SBSB. The SBSB reviews and discusses all pertinent information. If additional information is needed, the LOSBO, VOC, Inspector, or Subject Matter Expert may be consulted. The SBSB votes to uphold the Category 1 Deficiency or downgrade it. Their decision is final and will be communicated to all affected parties. The SBSB's decision will be recorded by the SBSB Chair and included in the small boat's Inspection Report.

The Director, OMAO must be notified through OMAO SECD of any instance when the SBSB votes to downgrade a Category 1 deficiency without a unanimous vote.

g) Post-Inspection Exit Briefing

The Inspector will discuss the inspection details with the VOC (or designee) and issue a list of requirements and corrective actions. All deficiencies are issued before the Inspector's departure as practical and acknowledged by signature of the VOC (or designee).

h) Inspection Follow Up and Corrective Actions

- The inspector provides requirements to address deficiencies issued during the inspection and discusses it with the VOC. This is done on-site after the inspection is completed.
- The VOC reviews and comments on the list of requirements and forwards it to their Program Director and VPC.
- The VPC forwards the list of requirements to the LOSBO.
- The VOC, VPC, and LOSBO develop a Corrective Action Plan or response.
- Corrective Action Plans for resolving deficiencies must be communicated back to the issuing inspector for approval and can be done prior to the inspector's departure.
- If a deficiency requires continued discussion, the LOSBO can elevate to the SBSB.

i) Authorized Deviations

In some instances there will be Class III and SRV boats that cannot economically or feasibly attain full compliance with subchapter T. These small boats are evaluated by the SBP in a case by case basis and the equivalency of subchapter T regulations considered. All operational, design, and route factors are evaluated to ensure the most applicable subchapter T inspection standards apply. The SBSB will review all requests for deviation.

.04 Delinquent Examination and Inspections

Examinations and Inspections of small boats in active status are done no later than 45 days after the 1-year anniversary. Small boats past the 45-day window must not be used for any operations, and are placed in inactive status.

## SECTION 15      HAZARDOUS MATERIALS

### .01      Environmental Compliance

All small boats operate in full environmental compliance with Federal, State, and NOAA requirements. All NOAA employees must consider themselves stewards of the environment, and use established policies and best practices to prevent pollution. NAO 216-17 - *NOAA Environmental Compliance Program* provides guidance on responsibilities to ensure regulations are followed to protect the environment and promote environmental stewardship of our natural resources.

#### a) Minimum Requirements

The VOC must:

- Maintains an written inventory of hazardous materials inherent to the maintenance and operation of the small boat
- Ensure that hazardous materials are handled, stored, and disposed of per industry standards, state regulations, federal regulations, and the Safety Data Sheet.

Additional guidance on the handling, storage, and disposal of hazardous substances is available on the [SBP website](#).

#### b) Materials Brought by Scientific Party

The VOC assists with environmental compliance requirements, and works with the Chief Scientist(s) to ensure that the chemical hygiene plan is properly executed and that any problems are promptly brought to the attention of the Program's Director.

- The science party provides a chemical hygiene plan to the OIC;
- The science party provides all spill prevention, and spill response equipment listed by the Safety Data Sheet for each hazardous materials brought aboard;
- The Chief Scientist ensures that hazardous materials are handled, stored, and disposed of per industry standards, state regulations, federal regulations, and the Safety Data Sheet;
- Upon completion of the mission, the science party remains responsible for removing all hazardous materials they brought aboard, as well as any hazardous waste generated by carrying out the mission.

#### c) Oil or Hazardous Substance Release

Notify the USCG National Response Center of any discharge into the water by calling: **1-800-424-8802**. Then notify VOC and LOSBO.

A template Shipboard Oil Pollution Emergency Response Plan (SOPEP) is available on the [SBP website](#). Class III and SRV's are encouraged to complete a SOPEP.

## .02 Pollution Prevention Control

Regulations issued under the Federal Water Pollution Control Act require all small boats with propulsion machinery to have a capacity to retain oily mixtures on board, and be equipped with a fixed or portable means to discharge these oily mixtures to a reception facility. On Class A, Class I, and Class II boats a bucket, oil absorbent pads, heavy-duty plastic bag, bailer, or portable pump are some of the suitable means that meet the requirement for retention on board until transferring the oily mixture to a reception facility.

No person may intentionally drain oil or oily waste from any source into the bilge of any small boat. You must immediately notify the U.S. Coast Guard if your small boat discharges oil or hazardous substances in the water. Call the Coast Guard National Response Center at **1-800-424-8802**.

- Management of oily water can be effectively handled using:
  - Oil water separator;
  - Oil absorbent material;
  - Discharged to an onshore facility
- SBOs must develop refueling procedures to prevent accidental spills during refueling or maintenance of the small boat.
- Motorized small boats, when practical, should keep a supply of oil absorbent materials onboard to respond to a spill of petroleum products.
- All hazardous waste generated is managed per federal and state regulations. The transportation of hazardous waste must be in accordance with the Department Of Transportation regulations.

## .03 Marine Sanitation Devices (MSD)

All small boats with installed toilet facilities must have an operable MSD on board. Small boats 65 feet and under may use a Type I, II or III MSD. Small boats over 65 feet must install a Type II or III MSD. All installed MSDs must be USCG approved. USCG approved devices are so labeled except for some holding tanks, which are approved by definition under the regulations.

When operating a small boat on a body of water where the discharge of treated or untreated sewage is prohibited by state or federal regulations, the operator must secure the device in a manner that prevents any discharge.

Some acceptable methods are:

- Padlocking overboard discharge valves in the closed position

- Using non-releasable wire tie to hold overboard discharge valves in the closed position
- Closing overboard discharge valves and removing the handle
- Locking the door, with padlock or keylock, to the space enclosing the toilets (for Type I and Type II only)

#### .04 Vessel General Permits

A Vessel General Permit is required to be maintained on all NOAA small boats 79 feet or greater in length that discharge in waters of the United States to be in compliance with the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et seq.) The Vessel General Permit applies to discharges incidental to the normal operation of all small boats. The Clean Water Act allows states to provide different, more stringent requirements for discharges into their state's waters and must be taken into consideration when a Vessel General Permit is required.

The Vessel General Permit contains effluent limits for different types of discharges including deck runoff, bilge water, and gray water. Contact the SBP for further guidance and Vessel General Permit template.



## **SECTION 16      MAINTENANCE PLAN**

This section establishes responsibility and objectives for the maintenance of NOAA small boats. It provides guidance on key elements of a maintenance plan to be developed by each operating unit; customized to their unique requirements, small boat complexity and resources.

Maintenance of small boats is a critical component of the SBP and is integral safety and reliability. Proper maintenance assures maximum life cycle value and helps minimize environmental impact. It must be recognized that compromised small boat material condition or system performance is often a contributing factor to safety incidents and accidents. An effective maintenance program preserves safety margins and improves overall mission quality, capability, and reliability.

A standardized, program wide, maintenance program is beyond the scope of this Manual and is not practical due to the diverse platforms and operational resources; however, the SBP does require each operational unit to develop plans for maintenance of their small boats in accordance with the general guidelines of this section.

### **.01      Maintenance Plan Elements**

Structure and manage maintenance plans for NOAA boats to recognize the inherent performance, safety, and reliability levels of the boat design. This is accomplished by establishing a detailed plan for scheduled preventative measures, inspection and testing frequency, timely repair and performance documentation.

Place emphasis on comprehensive planning, resourcing, and scheduling these tasks. Proper planning and execution maintains warranties, reduces unscheduled maintenance events, increases asset availability, and allows for an orderly progression of maintenance actions toward sustaining materiel in a safe and operable condition.

Clearly link maintenance plans to strategic and fiscal planning. Proper maintenance can minimize the potential for catastrophic failure and minimize the total cost of ownership throughout the life cycle. Budgets must be developed to assure funding for scheduled preventative actions and contingencies for emergency repairs. Deferred maintenance or operation of compromised equipment must be avoided.

Adopt manufacturer recommendations and industry best practices in maintenance plans. Plans include, or reference, approved materials, procedures and identify qualified service providers.

Installed systems must be maintained and must not be altered without due consideration of potential impacts. Alterations and modifications to these systems must be directed by qualified persons and in accordance with Section 12.02 of this Manual.

Small boats must present a professional and positive public image. Maintenance plans should address the physical appearance through cleaning and painting

schedules. Air and water emissions from engines and machine spaces are minimized through proper maintenance of mechanical systems.

The plan minimizes and prevents environmental, safety, and occupational health hazards in conducting maintenance activities. Consider occupational, environmental and human factors to allow for safe and effective task accomplishment. Include hazardous material handling, containment and safety protocols in maintenance oversight and training efforts.

The plan provides a means of recording or logging modifications, servicing, inspections and maintenance activities. It should facilitate the collection and analysis performance related data such as engine parameters, oil/ fuel /filter usage, and measures of noise, heat or vibration.

The programs must establish procedures to record inspection findings, mechanical failures and incidents with a process to develop and track corrective actions.

## .02 Responsibilities

The development and execution of the small boat maintenance plan is the combined responsibility of the OIC, VOC and Program Director associated with each boat.

The Program Director assures that a plan is developed to the general guidelines established in this Section. The Program Director is responsible for allocating resources (budget, personnel and time) that supports the objectives and requirements of the established maintenance plan.

The VOC, in cooperation with operators and technical resources, develops the structure, details and procedures of the maintenance plan. The format should be appropriate for the complexity of their boats and operations. The VOC assures that corrective measures are implemented for all casualties and that preventative tasks are performed as prescribed.

OIC's provides documentation of performance measures, deficiencies and incidents relating to the operation and condition of each boat. In conjunction with the VOC, the OIC assures that deficiencies have been appropriately mitigated or corrected prior to underway operations.

The Program Director, VOC and OIC have the responsibility and authority to remove a boat from service, or restrict its operation accordingly, when deferred maintenance or deficiencies adversely affect design performance, reduces safety margins, hull integrity or compromises the reliability of critical systems.

## .03 SBP Support for Small Boat Maintenance

The SBP is available to advise or assists any VOC needing assistance with repairs or researching vendor quotes.

## SECTION 17      ACCIDENT AND DAMAGE REPORTING

### .01      Definitions

#### a) Incident / Accident

An unplanned event or series of events, which results in one of the following:

- Injury to Personnel, or occupational illness
- Damage or loss of NOAA property, not incidental to normal operations, including findings that have the potential to cause damage
- Damage to public or private property, and/or injury or illness caused by NOAA operations (e.g. NOAA had a causal or contribution role in the accident)
- Damage to the environment, hazardous material spill, impact on ecosystems, protected species

#### b) Near miss: An event or circumstance that, if allowed to progress without interruption and/or without last minute intervention, would have resulted in an incident. Events or circumstances that approach and compromise safety margins.

#### c) Casualty, Damage and Conditions Found: material condition of boats or equipment that has been compromised, breached, or rendered inoperable due to events or conditions other than normal wear and expected life cycle.

### .02      Reporting Responsibilities

#### a) Property Damage

The OIC must follow the tables below to report all incidents to the VOC. The VOC assures that the incident is reported to the listed investigative authority and the LOSBO.

The LOSBO must review the details of the VOC's report and determine if the loss or damage is incidental to normal operations. Damage and loss not considered to be incidental to normal operations must be reported to SECO via [NOAA Online Incident Reporting System](#).

#### b) Bodily Harm

The OIC must follow the tables below to report all incidents to the VOC.

For Bodily Harm, the VOC must ensure that the individual's supervisor is informed and ensures a report is submitted to SECO via [NOAA Online Incident Reporting System](#).

## c) Environmental Harm and Hazardous Release

All small boats must maintain an inventory log of hazardous materials and quantities.

A template SOPEP is available on the [SBP website](#).

## d) Protected Species

Regulations and reporting concerning protected species vary according to operating area. OICs must report strikes to VOC/LOSBO. For regulations, see <http://www.nmfs.noaa.gov/pr/species/>.

The SBP must comply with all permitting and regulatory requirements of NOAA Trust Resource laws including but not limited to the Endangered Species Act, the Marine Mammal Protection Act, and the National Marine Sanctuaries Act.

## .03 Notification Chain and Timelines

Table 1: Property Damage

	Near Miss	Property Damage <\$20k	Property Damage \$20k-\$200k	Property Damage \$200k-\$1M	Property Damage > \$1M and Loss of Asset
<b>Procedure</b>	Unclassified  OIC must notify VOC <b>as soon as practical</b> .  VOC may elevate to LOSBO.	Class D incident  OIC must notify VOC <b>as soon as practical</b> .  VOC must notify VPC, LOSBO, and Program Director and ensure the incident is reported to SECO online system <b>within 7 days</b> .	Class C incident  OIC must notify VOC <b>immediately</b> .  VOC must notify VPC, LOSBO, and Program Director and ensure the incident is reported to SECO online system <b>within 7 days</b> .	Class B incident  OIC must notify VOC <b>immediately</b> .  VOC must notify VPC, LOSBO, and Program Director and ensure the incident is reported to SECO online system <b>within 24 hours</b> .	Class A incident  OIC must notify VOC <b>immediately</b> .  VOC must notify VPC, LOSBO, and Program Director and ensure the incident is reported to SECO online system <b>within 8 hours</b> .
<b>Reporting Mechanism</b>	SECO NOAA Online Incident Reporting System <a href="https://secure.seco.noaa.gov">https://secure.seco.noaa.gov</a>				
<b>Investigation Initiation</b>	VOC	Program Director / VOC	Program Director / VOC	Director, OMAO	Director, OMAO with NOAA SECO

Table 2: Bodily Harm

	Near Miss	First Aid Only	Injury Beyond First Aid	Serious Injury / Fatality
<b>Definition</b>	See definition above	One time, short term treatment. Given on site by personnel without significant training.	Significant injury or occupational illness diagnosed by licensed health care professionals. Includes lost time.	Inpatient hospitalization > 24 hrs. Amputation or disfigurement. Death.
<b>Procedure</b>	Unclassed  OIC must notify VOC <b>as soon as practical</b> .  VOC may elevate to LOSBO.	Unclassed  OIC must notify VOC <b>as soon as practical</b> .  VOC must ensure the incident is reported to SECO online system <b>within 7 days</b> .	Class C or D incident  OIC must notify VOC <b>immediately</b> .  VOC must ensure VPC, LOSBO, and Program Director are notified and ensure the incident is reported to SECO online system <b>within 24 hours</b> .	Class A or B incident  OIC must notify VOC <b>immediately</b> .  VOC must ensure VPC, LOSBO, and Program Director are notified and ensure the incident is reported to SECO online system <b>within 8 hours</b> .
<b>Federal Reporting Mechanism</b>	Not Applicable	Not Applicable	Not Applicable	Program Director must notify OSHA <b>within 8 hours</b> . (1-800-321-6742)
<b>NOAA Reporting Mechanism</b>	SECO NOAA Online Incident Reporting System <a href="https://secure.seco.noaa.gov">https://secure.seco.noaa.gov</a>			
<b>Investigation Initiation</b>	VOC	Program Director /VOC	Program Director /VOC	Director, OMAO with NOAA SECO

Table 3: Environmental Harm and Hazardous Release

	Near Miss (includes spill inside/within the small boat)	Spill < Federal/State Reportable Quantity	Spill > Federal/State Reportable Quantity
<b>Definition</b>	A spill that had the potential to occur, but did not actually occur.	A spill that occurred, but did not exceed federal or state Reportable Quantities	A spill that occurred, and exceeded the federal or state Reportable Quantities.
<b>NOAA Procedure</b>	Unclassed  OIC must report to VOC <b>within 24 hours</b> .  VOC must notify VPC, LOSBO, and Program Director <b>within 7 days</b> .	Class C or D incident  OIC must report to VOC <b>within 24 hours</b> .  VOC notify VPC, LOSBO, and Program Director <b>within 7 days</b> .	Class A or B incident  OIC must report to VOC <b>immediately</b> .  VOC must notify VPC, LOSBO, and Program Director <b>within 8 hours</b> .
<b>Federal Reporting Mechanism</b>	Not Applicable	Not Applicable	VOC must report to National Response Center (1-800-424-8802)
<b>State Reporting Mechanism</b>	As Applicable	As Applicable	Reportable quantities and the entity to report to vary by state.
<b>NOAA Reporting Mechanism</b>	Email summary	VOC ensures reporting to SECO online system <a href="https://secure.seco.noaa.gov">https://secure.seco.noaa.gov</a>	
<b>Investigation Initiation</b>	VOC	VOC / Program Director	Director, OMAO

NOTE: There are over 800 chemicals that fall under the Comprehensive Environmental Response, Compensation, and Liability Act. Release of these chemicals must be reported to NOAA, the federal government, and the individual state. Reportable quantities of chemicals can be found on individual Safety Data Sheet, and under 40 CFR 302.4, Table 302.4 – *Designation OF Hazardous Substances*.

#### .04 Investigation Authority

The Program Director or VOC must initiate an investigation for all Class C and D small boat incidents consistent with [NAO 209-1A](#). Findings and recommendations resulting from this investigation are made available to the Program Director, LOSBO, VPC, VOC and SBPM.

The Director, OMAO initiates an investigation for Class A and B small boat incidents consistent with NAO 209-1A, Section 7.09 – *NOAA Occupational Safety and Health*. Findings and recommendations resulting from this investigation are made available to the Program Director, LOSBO, VPC, VOC, SBPM, AA, Director, OMAO and NOAA SECO.

All investigations details and reports are considered confidential documents and are not to be widely distributed unless personal information has been redacted.

#### .05 SBSB Review

The SBSB charter requires Board review of all incident and accident reports. The SBSB must assure that appropriate investigative and corrective actions have been taken. Identifying lessons learned is key to all incident investigations. The investigation team will develop lessons learned and suggested corrective actions. The SBP will distribute these findings throughout the community, either directly, or via the Accident Reporting section of the [SBP website](#). The identity of the small boat, personnel, and program facility associated with the accident will be redacted.

## SECTION 18      WEIGHT LIFTING EQUIPMENT CERTIFICATION AND MAINTENANCE

### .01      Applicability

#### a)    Capacities and Limits

This section describes the full rated capacities and Working Load Limit (WLL) limits of booms, cranes, davits, A and J frames, and winches on NOAA small boats. It also defines the purpose and extent of tests, inspections, and safety precautions for this equipment. This Manual does not take into consideration the effects of other loading forces (boat acceleration and moment, drag, and snags) that may increase the total weight being supported by an apparatus and associated components. An operational risk assessment must be conducted before using any weight handling apparatuses per Section 5 of this Manual.

#### b)    NOAA, Office of Federal Agency Programs, and OSHA References

All small boats having booms, cranes, davits, frames, and winches used for weight lifting must comply with the requirements of this document, except as indicated within this section and references below.

- NOAA Administrative Order 209-1
- SBSPM Section 6
- 29 CFR 1960 - *Basic Program Elements for Federal Agencies*
- 29 CFR 1919.1 - *Gear Certification – Purpose and Scope*
- 29 CFR 1919 Subpart C - *Duties of Persons Accredited to Certify Vessels Cargo Gear*
- 29 CFR 1919 Subpart D - *Certification of Vessels Cargo Gear*
- 29 CFR 1919 Subpart E - *Tests and Proof loads*
- ASME B30 - *Standards Committee on Cranes and Related Equipment*

### .02      Definitions

**Booms and Frames:** A structural member used for lifting, transferring or supporting heavy weights. The lower part of the boom or frame is supported by a bracket or step allowing the boom or frame to pivot while transferring loads to structure. Rigging mounted on ships structure supports booms and frames

**Crane and Davit:** A machinery arrangement or self-contained structure, with associated reeving suitable for lifting loads through several dimensions of motion.

**Winch:** A stationary motor-driven or hand-powered machine used for hoisting or hauling, having a drum that winds a manmade rope, wire rope, or chain attached to the load being moved.

WLL: This is the maximum weight safely handled by an apparatus and all associated components used in conjunction with an apparatus, with the maximum authorized number of parts in the main purchase. An apparatus's WLL may be limited by the maximum rating of a component used in conjunction with an apparatus.

Static Load Test: A load test conducted on newly installed, structurally repaired (e.g. by welding) or structurally overhauled (e.g. replacement of major structural sections) systems where a test weight equivalent to 125% of WLL is applied as a force by external means and held for not less than 5 minutes, to demonstrate structural adequacy of the equipment and foundation. No part of the equipment, fittings, and structure must take a permanent set, nor degradation of any operating or control function occur as a result of the test.

### .03 Boom, Crane, Davit, Frame, and Winches Inspections

Unless more specific guidance is provided by the manufacturer, inspections and overhauls are conducted using guidance contained herein from 29 CFR 1919 - *Gear Certification*. Pre-mission Inspection is conducted by the boats crew before each day of operational use.

Annual Inspections may be conducted by experienced unit personnel and does not require an OSHA accredited person as per 29 CFR 1919 - *Gear Certification*.

Quadrennial Inspections (4 years) only apply to weight handling equipment rated for a WLL of greater than 200 pounds, and is completed by an OSHA accredited person for inspecting marine equipment as per 29 CFR 1919.11 - *Recordkeeping and Accredited Persons*. For a list of marine accredited inspectors, see the [SBP website](#).

#### a) Inspection Schedule

Inspection frequency includes Pre-mission Inspection, Annual, and Quadrennial (4 years) basis per 29 CFR 1919- *Gear Certification*. A grace period of 6 months is allowed for Quadrennials as per 29 CFR 1919.18 - *Grace Periods*.

- Pre-mission Inspection
  - General. The intent of this inspection is to conduct a visual inspection of the apparatus, rigging, and other critical equipment parts that could result in loss of life or equipment damage if failure occurs before each mission.
  - A visual inspect of a boom, crane, frame, or winch and all sheaves, swivels, blocks, block hangers, pad eyes, connecting links, shackles, hooks, wire, ropes and associated pins for corrosion, wear, deformation, cracks and any other condition that may lead to failure.
  - Upon completion of the visual inspection, results must be logged or recorded to indicate inspection was conducted. Any deficiencies or limitation to the equipment on board must be reported immediately to the VOC before departure.



- Annual Inspection and Test Requirements
  - General. The intent of this inspection is to ascertain the safety of the rigging and other critical equipment parts that could result in loss of life or equipment damage if failure occurs.
    - In general, the inspection must include all wire and manmade rope, fittings, block fittings, hooks, links, shackles and associated pins, swivels, boom and frame pad eyes, hoist control linkages, brake springs and linkages.
    - Any visible permanent set or deformation in the form of bent pins, elongated holes, bent or distorted staples and pad eyes are clear indications of overload or improper rigging. Any permanent set or deformation must be reported, and the rig should not be used until the cause is found and corrected. The operator should also be aware of recurring cracks in paint, particularly in areas of high stress corrosion. To inspect for surface cracks, remove paint and wire brush clean surfaces.
  - The following requirements are generic in nature, and are included in inspections as applicable in 29 CFR 1919 - *Gear Certification*.
    - Cradle or securely position the boom, crane, davit, or frame and remove all wire or manmade rope. Inspect the wire or manmade rope per 29 CFR 1919.24 - *Limitations on the use of wire rope*.
    - Visually inspect all sheaves, swivels, blocks, block hangers, pad eyes, connecting links, shackles, hooks, winches and associated pins for corrosion, wear, deformation, cracks and any other condition that may lead to failure. Inspection of sheaves includes sheave gage wear measurement IAW 29 CFR 1919 Subpart E - *Certification of Vessels: Tests and Proof Loads*.
    - Do not disassemble blocks, topping lift, vang swivels or equivalent devices unless there is reason to suspect damage, wear, corrosion, or marginal condition when last overhauled. Inspect hoist and rotating gear brake springs and linkage, where appropriate. Carefully check brake springs for permanent set and compression, and replace if necessary.
 

**NOTE:** (As applicable) Failure of brake springs in service can result in loss of control or release of load. Inspect hydraulic or pneumatic hoses for ballooning, cracking and corrosion. Inspect electrical wiring and connections for corrosion. Inspect brake solenoids and switches for corrosion and contact wear.
    - Inspect and lubricate all moving parts and wire rope per the manufacturer technical manual or Preventive Maintenance System.
    - Replenish the gear lube in the self-contained reservoir gearboxes if they have less than five gallons of lube oil. If possible, drains will be opened and the boxes checked for condensation at the bottom of the tanks. Check any magnetic plugs, if equipped, for particles. Draw oil samples of gearboxes with capacities in excess of five gallons for analysis as per good engineering practice.

- Visually inspect all deck and bulkhead pad eyes, links, chocks, cleats, bits, and mounting bolts. Where inspection indicates possible fractures, deformation or corrosion, a more detailed inspection must be conducted.
- Quadrennial Inspection (only applies to equipment with a WLL of greater than 200 pounds).
  - General. The intent is to accomplish the annual lifting inspection above, and inspect all major components whose performance or mechanical condition may have deteriorated. Disassembly may also be recommended and included in the inspection of other components whose performance is not affected by normal wear but whose failure could result in damage, injury or loss of life. Examples of these are reduction gears, goosenecks, topping fittings, and sheave pins. Disassembly of such items only needs to be carried out to the extent required to conduct the inspection. For example, it is not necessary to totally disassemble a reduction gear equipped with inspection plates that permit measurement of backlash and observable wear patterns. Outside appearance is not necessarily indicative of the mechanical condition of the equipment.
  - The following requirements are generic in nature and may be required by an OSHA accredited person as per 29 CFR 1919.11(d) – *Recordkeeping and Related Procedures Concerning Records in custody of Accredited Persons* and CFR 1919.12 - *Recordkeeping and Related Procedures Concerning Records in custody of the Vessel*. The attending accredited person determines the extent of disassembly required. Specific guidance in the manufacturer's technical manual takes precedence. Remove the arm, boom, or frame, disassembling the connection, between the boom or frame and the small boat that allows slewing motion.
  - Disassemble and inspect topping lifts, vangs, swivels, all blocks, hoist brakes, locking pawls, slewing gear, and pinion gear shafts and bearings. Check all pin, bearings, gears and sheaves for compliance with dimensional tolerances shown on the original equipment drawings.
  - Replace wire rope, as required. Replace wire rope if the total number of visible broken wires exceeds 10 percent of the total number of wires, or if the rope shows excessive wear, corrosion, or defects.
  - Inspect brake linings and brake discs, if applicable.
  - Inspect backlash and gear pattern in gear boxes that are equipped with inspection plates per manufacturer's instruction manuals.
  - Perform a static test (125% of WLL Limit) on all equipment or bulkhead mounted links and pad eyes used in the boom and frame systems for 5 minutes.
  - Visually inspect and non-destructively examine cleats and bitts associated with boom and frame systems using dye penetrant or other method deemed suitable.

**.04 Overhauls**

Significant overhaul of primary components may require a quadrennial inspection after reinstallation. At minimum, conduct Rated Load Test (100% of WLL Limit) while underway to prove the installation of a wire and manmade rope, fitting, or other repair conducted underway.

**.05 New or Altered Structures and equipment**

Before installing any new boom, crane, davit, frame, or winch on board a small boat, the VOC must contact the SBPM for assistance. The replacement of components in kind does not require the VOC to contact the SBP, but the below steps are required to be completed before use.

- Test commercially manufactured apparatuses and components at 125% of the intended use. Include rotation of the test load through a range of motion that the equipment is required to perform in service. The weight handling system must be able to stop, start, and hold the test load at any position within the service area.
- First, test experimental and in-house constructed apparatuses and components at 150% of the designed working load limit. Include rotation of the test load through a range of motion that the equipment is required to perform in service. The weight handling system must be able to stop, start, and hold the test load at any position within the service area.
- Conduct a Rated Load Test (100% of Working Load Limit) while underway to prove the installation of a wire and manmade rope, fitting, or other repair conducted underway.

**.06 Safety****a) Stability Documentation**

- Small boats with booms, cranes, davits, frames, or winches should have small boat stability documentation, which addresses the stability of the small boat with the weight handling equipment in use.
- Where the stability of the small boat limits the operational capability of the weight handling equipment, prominently display a graphic safety placard at the equipment operator's station describing the limitation, and graphically show the safe working zone and working load limit while operating at sea.
- When considering a boat's stability characteristics during testing procedures, maintain specified test loads within limits that can be handled safely. If any of the test loads result in an excessive list or the immersion of the deck edge, reduce the load accordingly to stay within those limits.
  - Label Plates. Install engraved or stenciled label plates on small boats booms, cranes, davits, and frames to document the WLL, test weights, and date of certification of the load test.
  - Safety Precautions. The following safety precautions must be observed when conducting weight handling equipment tests.

- To prevent excessive damage in the event of equipment failure during tests, place dunnage under test loads and keep each load as close to the deck as possible.
- Test or stamp wire ropes, slings, straps, chains, rings, shackles, and other loose gear with weight tested limits by the manufacturer as per 29 CFR 1919.31 - *Proof Tests-Loose Gear*.
- To prevent loads from moving off center in the event of a casualty, rig tag lines or cables athwartships from the test load. At minimum, the breaking strength of the tag lines must be greater than or equal to the test load.

b) Documentation of Test Results

At the completion of a quadrennial inspection by an OSHA certified inspector, the inspector issues documentation as to what was inspected, references inspected to, and final working load limit and any deficiencies noted.

The results of the inspections and tests prescribed must be logged or recorded to indicate inspection was conducted.

Stencil the date and type of the most recent inspection on the boom, crane, davit, or frame in the vicinity of the Label Plate, in a position clearly legible by any individual.

## SECTION 19      RIGGING AND PROOF TESTING

The handling of weights onboard small boats impacts personnel safety, small boat stability, and equipment operation. Over the side lifting and towing operations from a floating platform can magnify the dead weight mass of instrumentation or nets, resulting in significant forces. Managing the selection, use, and condition of associated gear is critical to safe and efficient operation under these conditions.

### Principle Elements for Safe Rigging:

- Identify component ratings
- Maintain material condition
- Review system design and identify limitations
- Communicate potential hazards and take mitigation actions

All elements of small boat rigging used to control, haul, tow, or secure a load must meet the requirements of this section. These components include winches, blocks, wire and synthetic rope, chain, slings, hooks, eye bolts, clips and shackles.

#### .01      Identification and Traceability

Use only marked, traceable, or proof tested components.

- Marked - permanently identified with name or trademark of manufacturer, rated load, and size
- Traceable – documentation is on file to reference capacity limitations and manufacturer's recommendations
- Proof Tested – Mark custom or experimentally designed grabs, hooks, clamps, or other lifting devices, and similar materials to indicate the WLL and proof-tested, before use, to 150% of the determined rated load.

Each small boat must maintain a record of rigging components and their rated limitations. This information must be available to personnel engaged in the design and use of load handling systems. An example of how to log rigging components, and their rated limitations is available on the [SBP website](#).

Where practical, load limitations of rigging components should be communicated to users through permanently affixed tags, color coding or placards.

#### .02      Inspection

Load handling systems are subject to degradation from exposure, wear, and fatigue from the dynamic forces encountered on a floating platform. Frequent inspection of material condition is required to identify compromised or failing components.

- First inspect rigging components for the load capacity marked by the manufacturer or documentation stating load limitations. Manufacturers must meet US standards.

- Inspect rigging components before each use.
- Rigging systems should be subsequently tested per with Section 18 of this Manual, of this Manual, or be in accordance with recommendations of the rigging manufacturer and the equipment manufacturer.
- Do not load rigging equipment in excess of its recommended WLL
- Remove defective rigging from service.
  - Hooks, shackles, rings, pad eyes, and other fittings that show excessive wear or have been bent, twisted, or otherwise damaged are defective.
  - Visually inspect wire and synthetic ropes for defects such as abrasions, broken strands, kinks, excessive wear, or crushed cable that compromise rated capacity and are considered defective
- Make all eye splices per the manufacture's guidance and instructions.
- Fit rope thimbles of proper size in the eye, except that in sling eyes.
- Use only alloyed and capacity rated chain in rigging.
- Hooks and shackles used in rigging should have provisions to be mechanically secured such as spring loaded retainers, locking pins, zip ties or wire mousing.
- Only load eye bolts in the plane of the eye and do not load at angles of less than 45° to the horizontal.
- Permanently affix identification on purchased slings and lifting straps stating size, grade, rated capacity, and sling manufacturer
- Verify drums, sheaves, and pulleys are smooth and free of surface defects that may damage rigging. Verify associated wire or synthetic rope is a size in accordance with the equipment design.
- Winch drums must have sufficient rope capacity with recommended rope size and reeving to perform the intended hoisting and lowering functions. Rope capacities and terminations must be in accordance with the manufacturer's recommendations.

### .03 System Review and Risk Management

Changes in configuration and mission applications require careful review of the system design and limitations. Before each use, small boat personnel must assure that the configuration is in accordance with component WLL and design applications.

This review should include:

- Determine the load dead weight of gear and estimate its center of gravity
- Estimate the potential for high catch weights when using nets
- Identify WLL of all system components
- Identify and monitor the system weakest link
- Establish a means of restraining loads
- Provide for personal protection
- Identify of hazard zones
- Consider potential impact on stability and operation of the small boat
- Reference equipment manufacturer recommendations, intended use and best management practices

- Communicate the details of the rigging plan and associated risks to embarked personnel
- Consider mitigating steps and provisions to secure or release a load in an emergency

## **APPENDICES**



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## **Appendix A: NAO 209-125: NOAA SMALL BOAT SAFETY PROGRAM**

NAO 209-125

Eff: 4/23/08; Iss: 5/12/08

### **NOAA SMALL BOAT SAFETY PROGRAM**

#### **SECTION 1. PURPOSE.**

.1 The National Oceanic and Atmospheric Administration (NOAA) has a responsibility to provide a safe working environment for its workforce and for partners who are exposed to the risks associated with using small boats owned and/or operated by NOAA. This is consistent with NOAA Administrative Order (NAO) 209-1, NOAA Safety Policy. The purpose of this Order is:

- a. to make small boat safety the number one priority for all small boating operations;
- b. to ensure small boats meet NOAA's seaworthiness and operational safety standards;
- c. to establish a comprehensive NOAA Small Boat Standards and Procedures Manual (hereafter, "the Manual");
- d. to establish a NOAA Small Boat Safety Board (SBSB);
- e. to establish a Small Boat Program (SBP);
- f. to foster and facilitate collaboration within NOAA and with outside partners having a common interest in safe, efficient, and environmentally sound small boat operations; and
- g. to encourage a corporate culture that values the skilled small boat operator, encourages the distribution of information, seeks a quality approach, shares commitment, and seeks to manage operational risk.

.2 This is a complete revision and update to NAO 217-103, Management of NOAA Small Boats. Significant changes in this Order include: re-titling and renumbering of the Order to place it in the NAO Series' chapter on safety; revising and updating the policies for small boat safety; and introducing and authorizing issuance of the NOAA Small Boat Standards and Procedures Manual and prescribing that its contents will expand upon safety issues covered in this Order and will cover the non-safety matters previously addressed in NAO 217-103.

## SECTION 2. SCOPE.

This Order applies:

- a. to all NOAA small boats as defined in Section 6.01 of this Order;
- b. to all NOAA personnel who operate any small boat in the performance of their official duties; and
- c. to all individuals who operate NOAA small boats.

## SECTION 3. POLICY.

.1 The NOAA Small Boat Standards and Procedures Manual (the Manual) will consist of a broad programmatic core Manual having NOAA-wide application and by Supplemental Small Boat Policy (SSBP) and Small Boat Operating Manuals (SBOMs) developed by NOAA Programs (defined herein) to address their peculiar program and/or mission requirements.

a. Issuance of the Manual is in compliance with NAO 200-3, The NOAA Administrative Order Series.

b. The Manual augments and supplements the policies, procedures, and guidelines in this Order and is intended to maximize the efficiency and effectiveness of NOAA's SBP by providing for the timely development and issuance of programmatic materials to the small boat community.

c. The core elements of the Manual apply to all individuals and Programs involved with NOAA's small boats and has the same force, effect, and authority as this Order. These core elements shall be developed and maintained by the SBSB. An electronic edition of these elements will be available for viewing at the link to the Small Boat Program found on the Office of Marine and Aviation Operations (OMAO) webpage at <http://www.oma.noaa.gov/>.

d. The Supplemental Small Boat Policy (SSBP) and Small Boat Operating Manuals (SBOMs) also have the same force, effect, and authority as the core Manual; however, they are developed by NOAA Programs and are applicable only to their specified Program and/or mission.

.2 At a minimum, all small boats and their required inventories shall be inspected annually and, additionally, in accordance with individual requirements developed under the Manual and/or by NOAA Programs under the SSBP and/or SBOM.

.3 All operators of NOAA small boats shall be trained and certified based on small boat size, engineering complexity, nature of operations, and operating area. NOAA-wide training requirements are defined in the core of the Manual; Program- and mission-related requirements are defined in the SSBP and/or the SBOM.

.4 NOAA small boats shall be operated in a safe and environmentally conscious manner.

- .5 NOAA small boats shall be maintained in a seaworthy condition and be fit for the mission intended.
- .6 Appropriate safety training and life saving equipment resources shall be provided to personnel operating or embarked on NOAA small boats.
- .7 NOAA small boats shall be used only for official government purposes.
- .8 Any incident or near-miss concerning a NOAA small boat must be reported in accordance with NAO 209-1, NOAA Safety Policy, and any additional requirements in the Manual.
- .9 NOAA small boats shall conform to the visual identification and registration requirements provided in the Manual.
- .10 A waiver is a written authorization that permits temporary deviation from provisions of this Order for strategic or compelling operational requirements. Any Request for Waiver to provisions of this Order shall be presented in writing to the SBSB. The SBSB will provide guidance to the Director, OMAO, who is the approval authority for all waivers to provisions of this Order. See the Manual for additional coverage of Requests for Waiver.

#### SECTION 4. BACKGROUND.

- .1 Operating small boats in support of NOAA missions involves unique associated risks. NOAA relies on small boats to achieve mission requirements. There are numerous regulatory standards that address small boat safety, but little guidance or few regulations tailored specifically to the special mission of small boats or research vessels less than 300 gross tons. Current marine standards are derived from international conventions, lessons learned from casualties, and advances in technology. As such, the body of regulatory information continues to grow and change. Toward this end, this Order seeks to establish a NOAA Small Boat Program that is sufficiently fluid to meet varying small boat requirements on a national, regional, and local level.
- .2 As steward of the Nation's oceans and atmosphere, it is NOAA's intent to comply with, or exceed, all applicable regulatory and industry standards and to foster a management culture committed to safe and environmentally sound small boat operations based upon the principles of risk management.

#### SECTION 5. RESPONSIBILITY.

- .1 The Director, Office of Marine and Aviation Operations (OMAO), shall broadly administer NOAA's Small Boat Program and shall provide support and resources, and shall recommend additional funding sources for its operations. The Director, OMAO, is the final administrative authority for all matters pertaining to the NOAA Small-Boat Safety Program and its policies, procedures, and standards and shall review the contents of the Manual and any subsequent updates prior to their issuance. Concurrence will be indicated by signature of the Director on the sequentially numbered Transmittal Sheets that will accompany each issuance or update to the

Manual. The Director may request prior review and concurrence by the Deputy Under Secretary for Oceans and Atmosphere prior to authorizing potentially controversial updates.

.2 The Small Boat Safety Board (SBSB).

a. The composition of the SBSB is as follows.

1. Board Members:

- (a) Small Boat Program Manager (SBPM) - SBSB Coordinator;
- (b) National Marine Fisheries Service representative(s);
- (c) National Ocean Service representative(s);
- (d) Oceanic and Atmospheric Research representative(s) (also representing National Weather Service);
- (e) Office of Marine and Aviation Operations (OMAO) representative(s);
- (f) NOAA Safety and Environmental Compliance Office (SECO) representative(s); and
- (g) NOAA Law Enforcement (from various Line Offices) representative(s).

2. Each organization identified in Section 5.02a.1.(b) through (g) of this Order may designate one additional board member to the SBSB; however, for voting purposes, each of these organizations is entitled to cast a single vote (Oceanic and Atmospheric Research/National Weather Service also is entitled to one vote).

b. The SBSB serves in an advisory capacity to the Director, OMAO, and is the technical authority for matters pertaining to small boats. The SBSB shall:

- 1. develop, maintain, review, and approve this Order;
- 2. prepare, clear, issue, maintain, and distribute the NOAA Small Boat Standards and Procedures Manual (the Manual). The SBSB shall review and revise the Manual, as necessary, in order to keep it current with applicable policies and regulations and to maintain the ability to adapt to changes involving technology and/or safety within the marine community. The Manual, and its future updates, will be issued via sequentially numbered Transmittal Sheets;
- 3. develop, evaluate, and maintain a set of basic qualifications standards for small boat operators and crew;
- 4. approve basic small boat training requirements and approve all policies, standards, and operating procedures developed under the Manual (including all SSBP and SBOMs);

5. establish criteria and tools for small boat operational risk assessments;
6. identify and promote “best in class” safety practices for boat operations;
7. establish minimum criteria for SSBPs and SBOMs;
8. determine reciprocity or substitution of small boat operator and crew qualifications with similar qualifications of other agencies, organizations, or training programs;
9. serve as a policy and implementation advisor to the Small Boat Program;
10. evaluate data and trends gathered from operational, inspection, and incident reporting statistics and initiate appropriate actions;
11. address other boating-related matters as requested by NOAA management and/or as deemed appropriate by the SBSB;
12. inform NOAA management of significant small boat management issues;
13. maintain a compilation of small boat inventory and compliance records;
14. provide subject matter expertise for issues relating to the small boat community;
15. provide guidance to the Director, OMAO, regarding Requests for Waivers to the provisions of this Order and of the Manual;
16. respond to questions and concerns raised by the small boat community; and
17. review boating incident/accident reports and initiate appropriate actions.

.3 NOAA Programs. NOAA Programs that own, operate, and/or maintain small boats shall comply with this Order and the Manual and are responsible for the following:

- a. the safe operation, inspection compliance, life cycle management, and material condition of their small boats;
- b. developing and maintaining SSBP and SBOMs which are directly related to their unique program and mission requirements in order to augment the Manual;
- c. conducting and recording Operational Risk Assessments; and
- d. designating SBSB representatives and providing adequate time and resources for their participation on the SBSB.

## SECTION 6. DEFINITIONS.

- .1 NOAA Small Boat. A small boat, as defined in Section 6.06 of this Order, owned, operated, or maintained by NOAA. The term includes boats leased, loaned, bare boat chartered (also referred to as demise chartered), or operated under any cooperative agreement with other government agencies, universities, or scientific organizations by or from NOAA, but does not include boats time chartered by NOAA.
- .2 NOAA Program. As used in this Order, the term refers to and is synonymous with NOAA Line Offices, Staff Offices, and any of their subordinate entities.
- .3 NOAA Small Boat Standards and Procedures Manual. A compilation of instructions, procedures, regulations, and guidelines derived from operational risk assessments and best management practices applicable to NOAA Small Boats.
- .4 Operational Risk Management. A process approach to understanding and dealing with the elements of risk associated with operations. Implementing Operational Risk Management involves performing risk assessments and implementing corresponding risk controls. Risk management is a decision making process that enhances operational capability. The process helps the decision maker in identifying hazards, assessing risks, and implementing controls to reduce the risk associated with any operation.
- .5 Operational Risk Assessment. A process involving identification of risks associated with a NOAA small boat's operations and consideration of actions to reduce those risks. Supervision, communication, and overall support, operating area, operator experience level, personnel physical and mental fitness, weather, and complexity of mission may be factors in the assessment.
- .6 Small Boat (or Vessel). As used in this Order, includes every description of watercraft less than 300 gross tons capable of being used as a means of transportation of persons on water. The SBSB will classify vessels by size, nature of operations, and engineering complexity.
- .7 Small Boat Inspections. Documented, formal evaluations of a small boat's material condition, inventory, and compliance for which inspection criteria, frequency, and format are defined in the Manual.
- .8 Small Boat Operating Manual (SBOM). A compilation of instructions, procedures, and guidelines specific to each small boat, its mission, and its operating area.
- .9 Small Boat Operator (Operator or Coxswain). As used in this Order, any person who operates a NOAA small boat as defined in Section 6.01 of this Order.
- .10 Supplemental Small Boat Policy (SSBP). A compilation of instructions, procedures, regulations, and guidelines derived from operational risk management and best management practices conducted by a NOAA Program for specific small boat operations.

## SECTION 7. REFERENCES.

The following reference sources are listed in descending order of hierarchy.

- a. NAO 209-125, NOAA Small Boat Program.
- b. NOAA Small Boat Standards and Procedures Manual.
- c. Supplemental Small Boat Policy (SSBP).
- d. Small Boat Operating Manual (SBOM).

## SECTION 8. EFFECT ON OTHER ISSUANCES.



This Order supersedes and revokes NAO 217-103, Management of NOAA Small Boats, dated January 21, 2003, as amended.

                    /Signed/                     Under  
Secretary of Commerce for Oceans  
and Atmosphere

Office of Primary Interest:  
Office of Marine and Aviation Operations  
Safety and Environmental Compliance Division



## Appendix B: Small Boat Safety Board Charter

	<b>NOAA Small Boat Safety Program</b>	DOCUMENT	VERSION
		0104-01.3	1.0
	AUTHORIZED BY:  RADM David A. Score, NOAA Director, Office of Marine and Aviation Operations	EFFECTIVE DATE	
		May 20, 2015	
		REVIEW DATE	
		May 20, 2020	
		RESPONSIBLE POSITION	
		Small Boat Safety Program Manager	

### NOAA SMALL BOAT SAFETY BOARD CHARTER

#### 1. PURPOSE

- 1.1. This policy specifies the terms of reference for the National Oceanic and Atmospheric Administration (NOAA) Small Boat Safety Board (SBSB).

#### 2. SCOPE

- 2.1. This policy applies to the NOAA Small Boat Safety Board.

#### 3. POLICY

##### 3.1. General

The SBSB is the final technical authority within NOAA on interpretation and application of NOAA Administrative Order (NAO) 209-125 – *NOAA Small Boat Safety Program*; matters pertaining to small boat safety policies, standards, and procedures; and all other small boat issues raised to the SBSB.

##### 3.2. Composition and Qualifications

- 3.2.1. The SBSB consists of the following voting members:

1. The NOAA Small Boat Program Manager (SBPM);
2. Line Office Small Boat Officers (LOSBOs) from
  - National Marine Fisheries Service (NMFS),
  - National Ocean Service (NOS),
  - Oceanic and Atmospheric Research (OAR), (also representing National Weather Service (NWS)),
  - Office of Marine and Aviation Operations (OMAO), and
  - NOAA Office of Law Enforcement (OLE);
3. Staff Representative from NOAA Safety and Environmental Compliance Office (SECO).

- 3.2.2. Line/Staff Offices may designate one additional non-voting member to the SBSB.

- 3.2.3. Selection criteria should be based on each candidate's diversity of experience, currency of experience, and scope of professional qualifications in small boat operations, safety and operator training.

**3.3. Appointment of Board Members**

- 3.3.1. Board members will be appointed by the Assistant Administrator/Director for each Line or Staff Office. The SBSB or the Small Boat Program Manager may provide recommendations to the Line/Staff Offices.
- 3.3.2. Any appointed member of the SBSB is eligible to be nominated as chairperson of the SBSB with Line/Staff Office concurrence. The SBSB will make the recommendation to the Director, OMAO.
- 3.3.3. The elected chairperson will be confirmed through an appointment letter from the Director, OMAO.
- 3.3.4. Appointments to the SBSB will be valid for three years from the date of appointment letter. Every three years before expiration of the appointment letter, the appropriate authority within each Line/Staff Office must either reaffirm his/her member's appointment or appoint a new member to the SBSB.

**3.4. Decision Making Process**

- 3.4.1. The chairperson must strive for consensus on all SBSB issues and decisions, and every attempt will be made to query each member of the SBSB on all decisions.
- 3.4.2. A quorum of two-thirds of the voting members must be present, in person or electronically, to conduct official board business.
- 3.4.3. Major objections to majority votes must be made part of the official meeting minutes.
- 3.4.4. Any member of the SBSB may request that an item be raised to the Director, OMAO and appropriate Line/Staff Office authority via written communication from the chairperson.

**3.5. Meetings**

- 3.5.1. At a minimum, meetings of the SBSB will be held quarterly. In-person meetings of the SBSB will be held at least twice a year and as additional meetings are required. The SBSB chairperson will coordinate the agenda and arrangements for the meetings, and determine appropriate attendees.
- 3.5.2. To ensure flexibility and timely response to critical matters, the chairperson will call a meeting of the SBSB.
- 3.5.3. The chairperson will ensure all SBSB meetings have official minutes and actions recorded. Meeting records will be maintained by the Small Boat Program Manager and be made available to NOAA management and the NOAA small boat community.
- 3.5.4. The chairperson will provide the Director, OMAO with minutes from all meetings.

**3.6. Term Limits**

- 3.6.1. The chairperson will serve a one-year term, and may be re-elected. In the case that the current SBSB chairperson is unable to continue his/her duties, the Small Boat Program Manager will serve as the acting chairperson in the interim and the board will recommend the Director, OMAO appoint a new chairperson.

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**4. GUIDANCE**

NOAA Administrative Order 209-125 – NOAA Small Boat Safety Program

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## 5. RESPONSIBILITIES

### 5.1. The NOAA Small Boat Safety Board (SBSB) will:

1. Develop, maintain, and review NAO 209-125 – *NOAA Small Boat Safety Program*, and submit recommended changes for approval;
2. Develop, maintain, and review the NOAA Small Boat Standards and Procedures Manual, and make change recommendations to the Director, OMAO;
3. Promulgate basic small boat training requirements, policies, standards, and operating procedures developed under the Manual;
4. Establish criteria for small boat operational risk assessments;
5. Identify, publish, and encourage “best in class” safety practices for boat operations;
6. Determine reciprocity or substitution of small boat operator and crew qualifications with similar qualifications provided by other Agencies or training programs;
7. Provide policy implementation guidance to the Small Boat Program;
8. Establish Small Boat Program metrics. Evaluate data, determine trends, and initiate appropriate actions;
9. Address other boating related matters as requested by NOAA management or the small boat community;
10. Identify NOAA-wide small boat management issues and inform appropriate management;
11. Maintain an inventory of small boats and compliance records;
12. Provide subject matter expertise for issues relating to the small boat community;
13. Review special circumstances, evaluate requests for waivers to the provisions of NAO 209-125 and the Manual, and provide guidance to the Director, OMAO as needed;
14. Address succession planning by growing talent and developing areas of expertise for Program continuity;
15. Develop a strategic vision for the NOAA Small Boat Program; and
16. Develop tactical plans to promote and improve the visibility of small boat platforms within and outside of NOAA.
17. Review boating incident/accident reports and initiate appropriate actions.

### 5.2. Request for Interpretation, Opinion, or Review

- 5.2.1. LOSBOs, VPCs, and VOCs may raise requests for interpretation, opinion, or review to the board via their Line/Staff Office representative.
- 5.2.2. When the SBSB receives a request for interpretation or opinion, the board will act as a decision-making body. At least two-thirds of the board members must be in attendance to constitute a quorum. When time is of the essence or in emergency matters and in the absence of a quorum, the matter will be referred directly to the chairperson for a decision.

- 5.2.3. When the SBSB receives a request for review of operational risk assessments, supplemental vessel policies, vessel operations manuals, or small boat incidents, the board will act as a quality assurance body and provide recommendations.

**5.3. Subject Matter Experts and Working Groups**

- 5.3.1. The SBSB may consult with appropriate subject matter experts or establish working groups of subject matter experts, to obtain reliable advice on any matter that may exceed the scope of knowledge and expertise of the board members.

## **6. DEFINITIONS**

<b>Line Office Small Boat Officer (LOSBO)</b>	Represents both individual programs and the Line Office as a whole on all matters pertaining to small boat operations and ensures Line Office Programs execute safe and effective small boat operations.
<b>Vessel Operations Coordinator (VOC)</b>	Is the Operations Coordinator, Operations Manager, Marine Operations Coordinator, Navigation Response Team Leader, or marine operations point of contact for each Program, Laboratory, or Field Party responsible for implementing all the requirements of the Small Boat Standards and Procedures Manual.
<b>Vessel Program Coordinator (VPC)</b>	Will assist their LOSBO with communication and implementation of policies and requirements; report issues up to the LOSBO; and provide assistance as needed by the LOSBO.

## **7. REFERENCES**

NOAA Administrative Order 209-125 – NOAA Small Boat Safety Program

NOAA Small Boat Standards and Procedures Manual  
<http://www.sbp.noaa.gov/policy/manual.html>

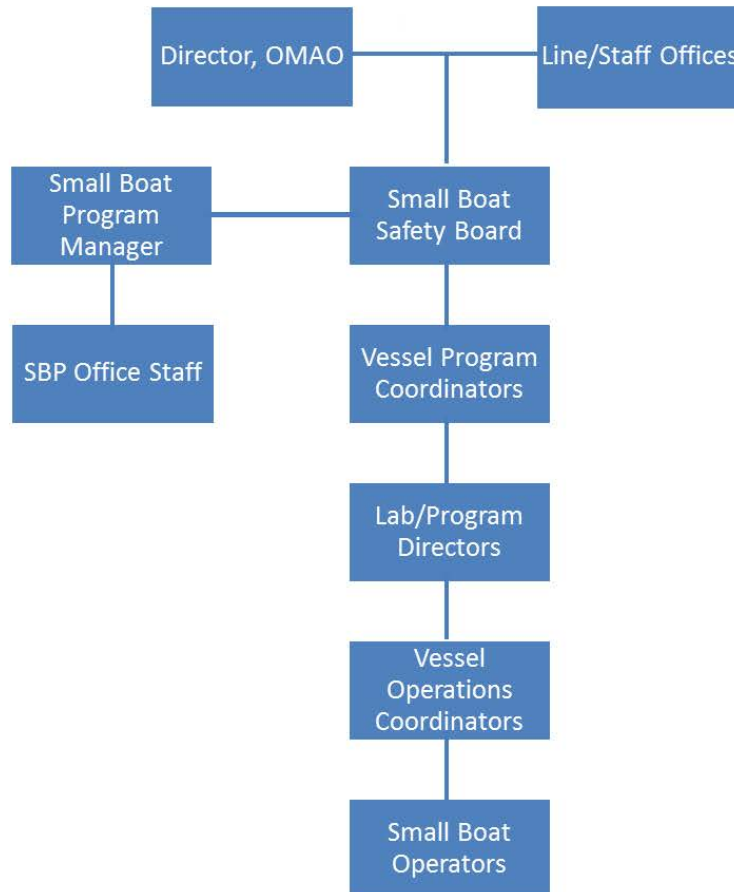
## **8. AUTHORITY**

Department of Commerce, Department Organization Order 25-5, Section 5.05

## **9. NOTES**

Effect on Other Documents: Supersedes Appendix B from NOAA Small Boat Standards and Procedures Manual, dated August 8, 2011

<b>DOCUMENT HISTORY</b>		
<b>Version</b>	<b>Description of Change</b>	<b>Effective Date</b>
1.0	Initial Document.	5/20/2015

**NOAA Small Boat Program (SBP) Functional Organization Chart**

*\* Vessel Program Coordinator is an optional designation.*