The NOAA Small Boat Standards and Procedures Manual

3rd Edition

Created by

The NOAA Small Boat Safety Board
with input from OMAO and other area experts

August 8, 2011

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ISSSUANCE MEMO

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

AUG 0 6 2011

MEMORANDUM FOR: Distribution

FROM: Rear Admiral Jonathan W. Bailey, NOAA
Director, NOAA Corps and
Office of Marine and Aviation Operations

SUBJECT: NOAA Small Boat Standards and Procedures Manual, 3rd Edition

As authorized in NAO 209-125, NOAA Small Boat Program, I hereby issue the NOAA Small Boat Standards and Procedures Manual, 3rd Edition (Manual). All previous and newly updated requirements are now in effect.

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 has 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 (OMAO) webpage at http://www.omao.noaa.gov/.

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

RECORD OF CHANGES

3rd Edition

SECTION	SUBSECTION	DETAIL
all		Changed page numbering, revised references to appropriate sections and appendicies
1	.06.b	Changed "Annual Risk Assessment for all NOAA small boats" to "each." Added criteria for grouping vessels.
2	.04, .05, .15	Added SBP Inspection Coordinator, SBP Engineering Coordinator, Passengers
3	.02	Moved definition of "Passengers" to Section 2
6	.01.e	2nd Ed. Appendix I moved into Section 6
	.02.b	Allow OICs to log completion of all start up procedures in one line versus each separate item
	.02.b	2nd Ed. Appendix M moved into Section 9
10	.01	Investigations shall be consistent with NOAA's Safety Policy NAO 209-1
12	.02	Changed reference from OMAO Fleet Inspection Office to SBP
	.03	2nd Ed. Appendix N's ASBE, SBEX, and trailer examination policies moved into Section 12; SBEX exemption for non-motorized craft moved into section
	.03.a	Deleted reference to "certified marine surveyors" as a VOC's designee to perform ASBEs
	.04	References from OMAO changed to SBP
	.04.b	Vessel documents shall be made available for inspection
	.04.c	Vessel shall be available for full day, require SBO to be present at inspection, test bilge & fire pumps. If vessel is non-operational inspector will determine if rescheduling is necessary
	.04.d	Added section defining deficiency categories
	.04.e	Added requirement for drills during inspections
	.04.f, h	Edits to align reporting chain with revised routing
	04.g	Changed authority from OMAO Fleet Inspection Officer to SBP, Cat. 1 deficiencies must be cleared through SBP/issuing inspector before returning to service
13	all	Added references to SBP and SBP Engineering Coordinator
14	.08	Moved 2nd Ed. Appendix O into Sec 14
16	all	Contents rewritten
17	all	New section addition
18	all	New section addition
19	all	2nd Ed. Appendix B turned into Sec. 19
Appendix B		Moved SBSB charter from 2nd Ed. Appendix D to B
Appendix C		Moved PFD policy from 2nd Ed. Appendix L to C, updated

		references to NAO 209-125, one meter equivalent changed to 39.5 inches
Appendix D		Renamed from 2nd Ed. Appendix J, magnetic compass adjustment recommended annually, required no more than every 3 years
Appendix E		Renamed from 2nd Ed. Appendix K
Appendix F		Renamed from 2nd Ed. Appendix P, replaced entire contents with new guidance
Appendix G		Consolidated 2nd Ed. Appendices C, E, F, G, H

NOAA SMALL BOAT STANDARDS AND PROCEDURES MANUAL
TABLE OF CONTENTS

SECTION 1. INTRODUCTION

.01 Purpose

This document contains the standards and procedures for operations and management of National Oceanic and Atmospheric Service (NOAA) small boats. For the purposes of The NOAA Small Boat Standards and Procedures Manual (the Manual), "small boats" are defined as vessels less than 300 gross tons. The Manual is designed to provide guidance, enhance safety and promote operational readiness by dictating general operating standards and procedures for all small boats operated under the authority of NOAA, including those based on Office of Marine and Aviation Operations (OMAO) ships. It is not intended to cover every contingency that may arise or every rule of safety in practice. At a minimum, this Manual incorporates the required provisions defined by NOAA Administrative Order (NAO) 209-125: The NOAA Small Boat Program, while also providing guidance specific to operations of NOAA small boats. All NOAA small boat operators, as well as employees and contractors involved in small boat operations, shall adhere to this Manual.

This Manual may be augmented by a program's Supplemental Small Boat Policy (SSBP), however, the Supplemental Small Boat Policy can not diminish the minimum standards as set by the Manual or by NAO 209-125.

.02 Wording

Words used in this Manual to denote mandatory or permissive actions are defined as follows:

a. "Shall" or "must" means the procedure or standard is mandatory.

b. "Should" means the procedure or standard is recommended.

c. "May" and "need note" means that the procedure or standard is optional.

d. "Will" means futurity of action only and does not indicate any degree of requirement for application of a procedure or meeting a standard.

.03 Distribution

The current version of this Manual shall be made available on the Small Boat Program web site. Each Line Office that services a NOAA small boat shall have a time-stamped and updated hardcopy available; if possible, a copy will be placed on board each boat for viewing by anyone at anytime. This Manual shall be read by all NOAA employees and contractors, as well as partners and volunteers that may use NOAA small boats as part of their work. In addition, copies of this Manual will be distributed to partner law-enforcement entities. Other interested parties may receive a copy upon request. If practical, the Operator-in-Charge (OIC) of a vessel is responsible for ensuring that an up-

to-date copy of this Manual, the Line Office Policy or Manual (if in place) and a specific small boat operation manual are on board the boat.

.04 Manual Review

It is the responsibility of each Line Office in NOAA to review this Manual annually and propose written changes to their Small Boat Safety Board representative. Significant proposed changes to the NOAA Small Boat Standards and Procedures Manual shall be reviewed by the SBSB. The chair of the SBSB is responsible for ensuring that any approved changes/additions to this Manual are forwarded to the Small Boat Program Manager for clearance and distribution to Line Offices. Revisions to the Manual will be implemented via the issuance of either technical directives or a new edition of the Manual, as required. Programs and operating units shall establish small boat working groups that will review this Manual, ensuring that they can meet the stated safety and operational requirements. Issues pertaining to this Manual shall be elevated to the Small Board Safety Board for review.

a. Clearance process of the Manual:

1. SBSB with consultation within each representative's Line Office or Program
2. Internal OMAO
3. General Council for NOAA Safety
4. Additional consultation at the discretion of Director, OMAO
5. Final approval authority by Director, OMAO

b. Policy quoted from NAO 209-125 Section 3.01:

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 OMAO's web page at http://www.omao.noaa.gov/.

d. The SBSB shall be responsible for preparing, clearing, issuing, maintaining, and distributing 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.

e. The Director, OMAO, 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.

f. The Manual will adhere to all requirements of NOAA Administrative Order 200-3, The NOAA Administrative Order Series, as listed under the subject, "Handbooks and Manuals." An electronic version of the Handbook will be available on the OMAO web site.

.05 Waivers and Emergency Action

The procedures and standards contained in this Manual constitute criteria necessary to promote the safe and efficient operation of NOAA small boats. Neither Operators nor Crewmembers shall be scheduled for, nor shall they engage in, boating activities unless they satisfy the requirements of this Manual. Only the Director, OMAO, may approve requests for waivers to these procedures, standards, and requirements. Requests must be made through the Vessels Operation Coordinator to the SBSB who will take action on the request and provide recommendations to the Director, OMAO. Emergency situations may warrant actions contrary to the provisions of 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 and LOSBO within 24 hours.

.06 Other Guidance

This Manual provides guidance for operations and management of all NOAA small boats. Further guidance, references, directives, and details may be found in the Supplemental Small Boat Policy (SSBP), Annual Risk Assessments, Small Boat Operations Manual (SBOM), Original Equipment Manuals (OEM), or applicable United States Coast Guard (USCG) and federal regulations.

a. Supplemental Small Boat Policy (SSBP)

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 document. A Supplemental Small Boat Policy shall not diminish the NAO 209-125 policy and the standards and

procedures established in this Manual.

b. Annual Risk Assessment

Every NOAA Line Office that operates small boats shall conduct, document, and review an Annual Risk Assessment for each NOAA small boat. Boats of the same design, propulsion, operational capabilities, and mission may be grouped together for this purpose. The assessment shall be based on an evaluation of operational risks to personnel, small boat, environment, mission, and public relations. Guidelines for performing an Annual Risk Assessment can be found in Section 19 of this Manual. The guidance in the section is not all-encompassing and may be added to and modified to suit the program's needs. The Annual Risk Assessment shall be an appendix to the Small Boat Operations Manual.

c. Small Boat Operations Manual (SBOM)

A small boat-specific SBOM is required for each Class III and Small Research Vessel (SRV), as well as for Class A, Class I, Class II, and non-motorized small boats. The SBOM shall be a compilation of instructions, procedures, regulations, and guidelines derived from that small boat's or a small boat Class's Annual Risk Assessment. A template outlining the topics to be included in a SBOM can be found in Appendix G of this Manual.

d. Original Equipment Manual (OEM)

Technical manuals for equipment installed aboard a Class III and Small Research Vessel (SRV) shall be kept onboard that small boat and may be used as specific guidance for safe operations and maintenance. For Class A, Class I and Class II small boats, as well as non-motorized small boats where it may not be practical to carry manuals onboard, a laminated copy of the operating procedures shall be sufficient with the manuals available ashore.

SECTION 2. ROLES AND RESPONSIBILITIES

.01 NOAA Marine and Aviation Operation Director

It is the responsibility of OMAO to *administer NOAA's Small Boat Program, establish policies and procedures to ensure a safe small boat program to support NOAA's program needs, identify applicable regulations, provide operator training, staffing guidance, and marine engineering assistance on boat alterations, boat design and selection criteria. (Departmental Organization Order 25-5)*

The Director of OMAO:

a. Will ensure, at a minimum, the position of NOAA Small Boat Program Manager is filled and will make every effort to identify and fill additional positions within the program, as deemed necessary by the Small Boat Safety Board or OMAO Safety and Environmental Compliance Division;

b. Is the final authority on decisions of waivers after hearing recommendations from the Small Boat Safety Board;

c. Will make every effort to identify funding and other resources to develop and maintain the Small Boat Program for all of NOAA;

d. Is the final administrative approval authority for this Manual.

.02 Office of the Chief Administrative Officer

NOAA’s Chief Administrative Officer will appoint a representative to the Small Boat Safety Board to:

a. Ensure all NOAA safety policies are adhered to by the program;

b. Assist in the development of small-boat policies and procedures;

c. Participate in all small-boat accident investigations.

.03 Small Boat Program Manager (Manager)

The Manager is the functional head and communications focal point of the SBP.

The Manager, in conjunction with the SBSB, is responsible for:

a. Managing operator-training program development;

b. Inspection-program criteria and promulgation;

c. NOAA boat inventory and NAO and Manual compliance monitoring for all NOAA small boats and operators.

d. NOAA Small Boat Standards and Procedures Manual and NAO development;

e. Budget development and implementation, both short and long term;

f. Accident and incident reporting protocol and tracking;

g. Risk management development;

h. Web-site development and maintenance;

i. Development and maintenance of the program's organizational and communication structure.

j. The SBPM is Chair of an appointed board of representatives from the NOAA Line and Staff Offices. This NOAA Small Boat Safety Board (SBSB) will formulate NOAA small boat safety policies, plans and projects required to implement and sustain an agency-wide small boat safety program. The SBPM manages and coordinates the efforts of personnel, from multiple line offices, that regularly work with the SBP as a collateral duty.

.04 SBP Inspection Coordinator:

a. Coordinates, schedules, and conducts boat inspections of Class III boats and SRVs. Opportunistically can perform ASBE and SBEX for Class A, I, and II boats.

b. Identifies applicable regulations and provides guidance.

c. Coordinates and reviews small boat stability standards.

d. Provides engineering and technical support to all line offices.

e. Reviews small boat casualty reporting, and investigates small boat incidents as directed by the SBPM.

f. Maintains SBP files for inspections and status.

.05 SBP Engineering Coordinator:

a. Reviews and provides engineering and technical guidance for boat alterations and repairs.

b. Coordinates, assists, and provides training for the SBP's preventive maintenance program.

c. Maintains SBP files for small boat alterations and repairs.

d. Reviews and assists VOCs with contracted repairs and maintenance specifications.

e. Conducts marine surveys and assessments of boat hulls, structures, and overall condition.

f. Reviews small boat casualty reporting, and investigates small boat incidents as directed by the SBPM.

g. Assists the Small Boat Inspection Coordinator with annual inspections of Class III boats and SRVs.

h. Performs the duties of a Contracting Officer's Technical Representative (COTR) for small boat contracted construction, repairs, and maintenance as requested by a Line Office or VOC.

.06 Small Boat Safety Board

The objective and purpose of the Small Boat Safety Board are reflected in its charter and the NAO 209-125. A copy of the charter is included as Appendix B.

.07 Line Office Assistant Administrator

The Assistant Administrator (AA) maintains overall responsibility for compliance with policies and for the safe use and management of all small boats within the Line Office.

The AA or Director of each Line or Staff Office identified in the NAO 209-125, Section 5.02, will:

a. Identify and appoint a qualified and experienced "expert" to the SBSB and will ensure these representatives have the resources, responsibility, and authority to represent their respective Programs;

b. Ensure that there is one focal point (see NAO, section 2.05) in the Program's chain of communications and command pertaining to Small Boat Program issues. It is recommended this person is also assigned to the SBSB, but not required.

.08 Line Office Small Boat Officer (LOSBO)

The Line Office Small Boat Officer represents both individual programs and the Line Office as a whole on all matters pertaining to small boat operations. The LOSBO often serves on NOAA's Small Boat Safety Board and the Line Office's Small Boat

Committee. The LOSBO assists Line Office Regional Programs in carrying 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 will have authority from his/her 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. (Checklist of responsibilities is available on the web site www.sbp.noaa.gov)

.09 Program Director

The Program Director (i.e., Science Center Directors, Lab Directors, Sanctuary Managers, or the responsible management position for each Vessel Operations Coordinator) ensures implementation of and compliance with all policies for the safe use and management of small boats within a Program.

The Program Director:

a. Reviews and approves, via signature, written waivers of any requirement stipulated in the program's Supplemental Small Boat Policy;

b. Is responsible for delegating authority of small boat operations to a Vessel Operations Coordinator;

c. Ensures sufficient resources for training, maintenance, appropriate equipment purchases, professionally approved alterations and new constructions, and minimum safe manning levels;

d. Is responsible for ensuring that all small boats not covered in Section 12.02.a are inspected in accordance with the provisions of this Manual and that resources are provided to address deficiencies identified in all inspections identified within this Manual;

e. Ensures risk assessments are completed in accordance with this Manual.

.10 Vessel Operations Coordinator (VOC)

The Vessel Operations Coordinator (i.e., Operations Coordinator, Operations Manager, Marine Operations Coordinator, Navigation Response Team Leader, or marine operations point of contact) for each Program, Laboratory, or Field Party is responsible for implementing all requirements in accordance with this Manual. (Checklist of responsibilities is available on the web site www.sbp.noaa.gov)

The VOC shall also manage and maintain small boat support costs, establish and maintain contact with all users, and manage all small boat operations personnel. The Vessel Operations Coordinator should address any conflicts or other problems arising from the daily operation or maintenance of small boats with the appropriate Program Director as soon as possible.

The VOC shall update the NOAA small boat inventory list and operator training list, and report inspections as completed to their LOSBO and the NOAA Small Boat Program.

.11 Operator-in-Charge (OIC)

The OIC is the single qualified individual responsible for the safe operation of a small boat and all embarked personnel while underway. The OIC will be clearly identified in writing or verbally to all embarked personnel. In any case where more than one qualified Small Boat Operator is aboard a small boat, only one individual shall be designated OIC. The OIC shall make the decision whether to conduct, postpone, or cancel operations based on weather, the status of the small boat, available personnel, and other pertinent factors, any of which could result in an unacceptable level of risk.

.12 Small Boat Operator

A Small Boat Operator must meet all requirements for certification and be designated according to this Manual. Small Boat Operators are considered OIC of a boat if they are the only qualified operator aboard. If multiple qualified Small Boat Operators are aboard, only one will be designated and clearly identified as OIC as defined above (Section 2.09). Multiple Small Boat Operators are required onboard during longer, more complex voyages, including overnight voyages, as defined in Section 5 of this Manual. The Small Boat Operator(s) assists with the oversight of all personnel aboard, and helps to ensure that operations are conducted safely and efficiently, in accordance with the OIC's instructions. The Small Boat Operator(s) reports directly to the OIC while underway.

.13 Crewmember

A crewmember is an individual designated in writing and is capable of assisting in the operation of the small boat including underway operations, docking, anchoring, communications, and emergency procedures. This individual must be able to assist the Small Boat Operator in safely completing the mission. 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 5 of this Manual. Crewmembers report directly to the OIC or Small Boat Operator currently on watch.

.14 Persons Other Than Crew

Persons Other Than Crew include researchers, educators, VIPs, members of the media, interns, students, volunteers, or other personnel on board to participate directly in the planned operations, as documented in the Float Plan. All Persons Other than Crew must comply with this Manual and follow the instructions and guidance of the OIC, Small Boat Operator(s), and Crewmember(s). Any embarked person(s) who possesses skills and qualifications commensurate with a Crewmember's duties may be designated as a Crewmember at the discretion of the OIC. In this case, the embarked person/Crewmember shall not assume any mission-related duties until the duties as a Crewmember are fulfilled.

.15 Passengers

A passenger is defined as an individual on board who is not considered to be a member of the crew, who is not engaged in the mission of the vessel, who had not contributed consideration for carriage, and who is not compensated for onboard services. This may include outreach groups, VIPs, members of the media, or service organization personnel..

SECTION 3. SMALL BOAT GENERAL POLICIES

.01 Official Use

All NOAA small boats shall be used for official government purposes only. In determining whether a use is official, all pertinent factors shall be considered, including whether the use is essential to the completion of an operation, mission, or other legitimate NOAA function or activity, and whether it is consistent with the purpose for which the boat is intended. Each Vessel Operations Coordinator or designee shall determine whether a proposed small boat underway operation is official. OIC's are responsible for the enforcement of this requirement.

.02 Transportation of Passengers

When permitted by this Manual or a Small Boat Operating Manual, passengers as defined in Section 2.15 may be transported on NOAA boats. Any such arrangements shall be prearranged and approved by the Vessel Operations Coordinator. The OIC has the authority to deny passage to any personnel determined to be unofficial. Approvals will be granted when:

a. It is determined to be clearly in the interest of the Government.

b. The embarked personnel will not interfere with NOAA operations.

All federal and state requirements shall be followed as well as any other special considerations given to the safety of minors on NOAA small boats.

The OIC may authorize the boarding and carriage of personnel in emergency situations involving the protection of life at sea. For further guidance consult NOAA Administrative Order (NAO) 217-106, "Transportation of Nongovernmental Personnel as Passengers on NOAA Vessels, Aircraft, and Motor Vehicles."

.03 Small Boat Command Designation

A Program Director is responsible for delegating authority of small boat operations to the Vessel Operations Coordinator. The Vessel Operations Coordinator is responsible for designating an OIC for each underway operation. The OIC has command authority over all Small Boat Operators, Crewmembers, and other embarked personnel while underway. The OIC is also responsible for ensuring the safe conduct of the mission and compliance with all NOAA and Line Office policies and procedures.

.04 Small Boat Control

A small boat when underway shall have a designated OIC or Small Boat Operator in control at all times. When conducting dive operations from a small boat, the boat shall be

continuously manned by a qualified Small Boat Operator.

.05 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. An authorization certificate (Appendix G) must be completed for each qualified Small Boat Operator, identifying the specific operations and small boats, or class of boats, for which that operator is qualified. The authorization certificate must be signed and maintained on file by the Small Boat Operator's Vessel Operations Coordinator. Personnel in training for Small Boat Operator or Crewmember designation may control the small boat under the direct supervision of an OIC or instructor for training purposes only.

.06 Seamanship and Conduct

OIC's shall conduct small boat operations in such a manner as to avoid unnecessary hazards. All Small Boat Operators and Crewmembers must exercise prudent judgment at all times and take proper action when dictated by emergencies that endanger life or property.

.07 Alcohol, Drugs, Narcotics

The OIC and all Crewmembers shall 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 onboard NOAA small boats. Any person under the influence of alcohol, drugs, or narcotics will not be permitted aboard the small boat.

.08 Smoking Restrictions

Smoking may be permitted aboard NOAA 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 prohibited within 50 feet of all NOAA vessels during fueling operations.

Smoking shall not be permitted in the vicinity of fuel, flammable/combustible material, or battery storage areas, and such areas shall be labeled accordingly. Smoking shall not be 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.

.09 Additional NOAA Policies

Small boat operations must comply with all applicable NOAA policies.

SECTION 4. QUALIFICATION, EVALUATION, AND DESIGNATION

.01 Introduction

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

.02 Small Boat Categories

Small Boat Category	Definition
Class A	less than 16 feet length overall
Class I	16 to less than 26 feet length overall
Class II	26 to less than 40 feet length overall
Class III	40 to 65 feet length overall
Small Research Vessel (SRV)	greater than 65 feet length overall but less than 300 gross tons

.03 Required Credentials and Training for Small Boat Operators

a. Class A, I and II training:

1. The USCG Auxiliary BS&S (Boating Skills and Seamanship) or equivalent. An equivalent course must cover all of the significant topics of the USCG Auxiliary's BS&S curriculum and must be, at minimum, of equivalent duration (approximately 24 hours dependent on location). The topics are available at: http://www.cgaux.org/boatinged/classes/sailing_skills_and_seamanship.html. Approved equivalent courses are listed at the Small Boat Program website, http://www.sbp.noaa.gov.

(a) For cases where a prospective Small Boat Operator has prior training (for example: prior USCG license, prior uniformed service), the Small Boat Safety Board may consider this as fulfilling the USCG Auxiliary BS&S or equivalent requirement on a case-by-case basis.

(b) Operators of only non-motorized craft may use the following procedure in lieu of the USCG Auxiliary BS&S or equivalent training: Complete a risk assessment for their operations with their VOC. The VOC shall determine the need for a formalized swift water or similar class. If no class is deemed necessary from the risk assessment then

the VOC shall develop and review the proper PQS with the operator and certify them as a non-motorized vessel user only. If the VOC is not able to make this decision due to lack of own experience or training, they shall designate someone who is properly qualified to make that decision (an industry professional may be included in the discussion if necessary). The VOC shall keep all documentation of such training and skills review and should review them with their respective LOSBO.

2. NOAA Component Course. The NOAA Component is developed by the SBSB and updated as policies, procedures and standards change. It consists of 3 sections with accompanying exercises and a test. A NOAA Component Refresher Course is yet to be developed but could be taught by regional instructors or through e-learning when there are significant changes to the NAO or this Manual. The Course may be customized by location. Section topics include:

(a) NOAA small-boat policy, procedures and standards
(b) Operational Risk Assessment
(c) Team Leadership

In extreme cases where no Component course is available due to remote geography or lack of timely local instruction, the following guidance provides a temporary exemption: the VOC shall review the major components of the Component class with a focus on risk management (GAR model) and NOAA policy. The VOC shall also perform a detailed PQS with the operator. All other prerequisites shall be adhered to (including but not limited to USCG BS&S or equivalent course, first aid & CPR, adequate experience). This exemption is only good for 6 months and shall only be provided one time per person.

3. Personnel Qualification Standards (PQS). These may be developed, on site, by the Programs with direction from the Small Boat Safety Board. These will include:

(a) Checklists (see Section 4.04 and Appendix G for minimum requirements Class A-I and Class II)
(b) Advanced/Continuing Education
(c) Local or program-specific training (examples: surf operations, dive operations, towing nets, trailering, survey launch, ice, marine mammal operations).

b. Class III and SRV:

1. Appropriate USCG License or active Uniformed Service Officer of the Deck (OOD).

2. NOAA Component Course. (see above)

3. PQS and Advanced/Continuing Education (see section 4.04 and Appendix G for minimum requirements Class III and SRV)

c. All Small Boat Operator candidates shall have appropriate experience, as determined by the VOC, to be designated as a NOAA Small Boat Operator. The class of small boat, the small boat's operating area(s), and small boat's mission shall be taken into account when determining an appropriate level of experience.

.04 Personnel Qualification Standards Checklist

Small Boat Operators must successfully complete a checkout process with their Vessel Operations Coordinator (or designee) for each type of mission and for each specific small boat on which the personnel will be employed. Upon completion of the checkout process, the Vessel Operations Coordinator must complete an Operator Qualifications Checklist form (Appendix G) for each person who will be operating any small boat(s) within that Line Office Program.

.05 Training for Crewmembers

All Crewmembers are required to meet the training requirements defined in this Manual, and any additional standards set by the Program SSBP. Crewmembers are required to receive small boat-specific training and must demonstrate to their Vessel Operations Coordinator knowledge of the procedures and equipment carried aboard the small boat(s) on which they will be employed.

.06 CPR and First Aid Training

All Small Boat Operators shall have current Red Cross or equivalent certification in cardiopulmonary resuscitation (CPR), including the use of Automated External Defibrillators (AED) instruction when available, and First Aid.

.07 Documentation

Copies of all training certificates and operator qualification checklists for all Small Boat Operators will be maintained by the Vessel Operations Coordinator for each Line Office Program.

.08 Currency Requirements

All Small Boat Operator Qualification Letters shall be validated annually by the Program Vessel Operations Coordinator to ensure currency of certifications, training requirements, and a measure of proficiency.

.09 Delinquency

Small Boat Operators shall be considered delinquent and will be restricted from duties on their designated small boat(s) if the required training and certification requirements are not maintained in accordance with this Manual.

.10 Small Boat Operator Currency Responsibilities

Although each Program Vessel Operations Coordinator will maintain records of personnel qualifications, Small Boat Operators are responsible for tracking their own training and currency requirements in conjunction with the Vessel Operations Coordinator.

Each Small Boat Operator should request training through the Program Director to maintain qualification and currency in advance of expiration dates, to ensure that their small boat qualifications remain uninterrupted.

.11 Reporting

Vessel Operations Coordinators shall report updates of training and certifications to the LOSBO and SBPM as they are completed.

SECTION 5. SAFE MANNING REQUIREMENTS

.01 General

All NOAA small boats shall be manned by qualified Operators and Crewmembers, with possible exceptions during emergency situations, to ensure that operations are conducted in a safe, efficient, and professional manner. Personnel who are onboard primarily to conduct mission-related operations may assume crew duties only if the OIC has determined that the individual possesses the necessary skills and qualifications prior to assuming those duties. In this case, the embarked person/Crewmember shall assign higher priority to the Crewmember duties. Small boat Crewmembers may, if conditions warrant, assist embarked personnel with their mission at the discretion of the OIC.

.02 Succession to Command

The Chain of Command must be addressed during the pre-departure briefings. Should the OIC become incapacitated, the next senior-most Operator or Crewmember must take the lead in maneuvering the small boat to a position of safety and contacting emergency services to make necessary arrangements

.03 Minimum Safe Manning Levels

a. All Class A, Class I, and Class II

Manning-level baselines (minimum safe-manning-level requirements) are set by the Vessel Operation Coordinator based on, but not limited to, the minimum manning levels as determined by the small boat's Pre-departure Risk Assessment and SBOM, and as approved by the Program Director or designee.

b. All Class III and SRVs

All Class III small boats and SRVs shall be manned at a minimum by one Small Boat Operator and one Crewmember. Manning-level baselines (minimum safe-manning-level requirements) are set by the Vessel Operation Coordinator based on, but not limited to, the pre-departure Risk Assessment and as approved by the Program Director.

c. Manning Requirements for Additional Embarked Personnel

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In addition to the OIC and a Crewmember, an additional staff person familiar with the boat and its emergency procedures is required for every 10 embarked persons (other than crew).

d. Length of Operations

For planned operations exceeding 12 hours in duration an additional operator and enough qualified crewmembers must be onboard so that each watch is manned appropriately for the size and complexity of the small boat.

.04 Dive operations

When conducting dive operations from a small boat, the boat shall be continuously manned by a qualified Small Boat Operator.

.05 Solo Operations

When a small boat will be manned by one unaccompanied operator not working in close conjunction with another boat, ship, or person ashore, a Pre-Departure Risk Assessment shall be completed and approved by the Program Director or designee. Close conjunction is defined as: Where rescue will be immediately notified by someone other than the operator in the event of a catastrophic emergency.

SECTION 6. SMALL BOAT OPERATING PROCEDURES

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

.01 Prior to Engine Start-Up

a. Crew Reporting

Crewmembers for each mission shall report to the OIC at a specific, pre-determined time and place prior to departure.

b. Pre-departure and Safety Briefings

The OIC shall conduct a pre-departure briefing that should review any prior mission planning and preparation and cover any updates. This briefing shall be conducted far enough in advance to enable the crew to prepare adequately for any last-minute adjustments. The next senior-most Small Boat Operator or Crewmember must be identified during this briefing, and must be prepared to take command of the small boat in case of OIC incapacitation.

The OIC, Small Boat Operator, or Crewmember must also conduct a thorough safety briefing with all embarked personnel prior to getting underway. The briefing shall include general small boat familiarity and the locations of all safety systems and equipment carried aboard (fire extinguishers, life rafts, life rings, personal floatation devices, immersion suits, EPIRBs, etc.). The embarked personnel shall be apprised of the procedures to follow during fire, abandon ship, man overboard, and other emergencies. The use of a formal, written checklist detailing all of the topics to be covered during each safety briefing is strongly encouraged. (See Appendix G for an example)

Confirm verbally with all aboard that:

1. The team is well rested and ready to work;
2. Everyone understands the mission, and is capable of performing it.

c. Operational Risk Assessment

Prior to getting underway, the OIC and Crewmember(s) shall conduct an Operational Risk Assessment (See Appendix G) and confirm that the mission, personnel, and small boat all meet the assumptions made within the Annual Risk Assessment. If there is any indication that an unacceptable level of risk exists, the OIC shall take actions to reduce existing risks to an acceptable level.

Actions taken might include requiring additional crewmembers, reducing the scope of the mission, or carrying additional equipment aboard. Any

modifications to the mission, personnel, or small boat completed in an effort to mitigate risks shall be documented in both the Float Plan and the small boat's log and provided verbally to the Vessel Operations Coordinator prior to departure.

The total score of the Operational Risk Assessment shall be recorded in the Float Plan or the small boat's log.

The OIC has the authority to cancel the operations in question if risks cannot be reduced to a level that will ensure the safe, successful outcome of the mission.

d. Weather Briefing

The OIC is responsible for reviewing and being familiar with both prevailing and anticipated weather conditions for the area in which the mission is planned. The OIC shall obtain a briefing by a qualified meteorological forecast service (i.e. NOAA weather radio, National Weather Service web site, local Coast Guard reports, etc.). The briefing information shall consist of, at a minimum, current weather, sea state, trends, and forecasts for the departure location, proposed route, destination, and any alternate working areas.

Based on weather and sea-state forecasts, the OIC will determine if conditions are suitable for operations. The OIC has the authority to cancel operations if it is determined that personnel safety or the safety of the small boat will be subject to unnecessary risk.

e. Float Plan

All use of NOAA small boats shall be documented in a float plan. All float plans should at a minimum have the following information:

- Name and description of boat (including but not limited to make, model, color, length, width, draft, hull type, material)
- Names of all persons on board with contact information
- Itinerary with ETDs and ETAs
- Mission
- Communications plan
- Signatures for operator(s) and responsible shoreside contact(s)

Examples of various field sites' float plans are located on the Small Boat Program website: http://www.sbp.noaa.gov/.

In addition, the OIC shall ensure that the name and contact number of a family member, significant other, or legal guardian is available for all embarked personnel prior to the small boat's departure.

All Float Plans must be submitted in writing or electronically, regardless of voyage duration. The OIC shall tender the Float Plan, prior to departure, with the

Vessel Operations Coordinator or designee as follows:

1. The Plan shall establish a specific tracking and communications procedure that requires the OIC to report the small boat's position and an operations update at least once daily on multi-day trips;

2. The contact person shall be responsible for determining whether a small boat is overdue for arrival or check-in, and shall take appropriate action to either determine the location of the small boat or initiate emergency response.

If the OIC cannot prepare a written Float Plan prior to departure, the Vessel Operations Coordinator or designee shall be notified to communicate the Float Plan over the phone. The Vessel Operations Coordinator or designee shall then put the information in writing and manage the Float Plan as required by this Manual.

f. Communication Plan

A specific Point of Contact (POC) must be identified and established prior to departure, whether that departure is planned or unplanned. The POC must be available by phone or radio throughout the duration of the mission. The communication plan shall be incorporated into the Float Plan, and must identify specific times at which the OIC will check in and the means of communication to be used.

A back-up emergency phone number(s) shall be included in the event the primary means of communication fails.

g. Fuel Planning

Fuel planning for each voyage should be based on efficiency and economy, but shall not compromise safety. Careful considerations must be given to the weather conditions at the planned destination, and distances to alternate ports shall be taken into account.

h. Boat Inspection

The OIC shall ensure that a pre-mission inspection of the boat is completed in accordance with the applicable start-up procedures. In addition to the start-up procedures, the OIC shall also:

1. Inspect the log for maintenance discrepancies that have not been addressed;

2. Not accept the boat if it has been identified as not operational in the logbook or during the inspection until the mechanical or structural

problem has been corrected;

3. Ensure that all required safety, survival, and communication/navigation equipment specified in Appendix D and Appendix E are aboard and in good working order;

4. Ensure that the boat is properly fueled for the mission;

5. Ensure all fluid levels are normal (e.g. oil, coolant, steering, etc.) and that adequate reserves are onboard;

6. When applicable, ensure that the back-up motor or secondary means of propulsion is operational.

.02 Start-Up Procedures

a. Start-Up Procedures Checklist

All NOAA 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 ensuring the use of the checklist prior to each and every voyage.

b. Start Logbook Entries

For all small boats except small boats without enclosed cabins, the OIC shall ensure that completion of all start-up procedures are appropriately entered in the official logbook, and shall identify the information to be logged while underway. Logbook entries should include but are not limited to:

1. OIC, Small Boat Operators, and Crewmembers;
2. Name/description of the mission;
3. Date and Time Underway;
4. Date and Time of Arrival;
5. Items of Operational Interest;
6. Problems or Incidents;
7. Operational Area and/or Destination;
8. Embarked Personnel

The OIC of a small boat without enclosed cabins may prepare a trip report instead of maintaining a vessel logbook. (See the Small Boat Program website, http://www.sbp.noaa.gov, for a sample Trip Report/Float Plans.)

.03 Underway Operations

a. Weather Updates

The OIC shall ensure that destination and en-route weather forecasts are obtained prior to departure from the pier. Detailed weather updates shall be obtained at appropriate intervals, as well as any time the weather conditions appear threatening or conflict with forecasted conditions, and/or any time that en-route plans change.

b. Operations Under Adverse Conditions

Adverse weather conditions include, but are not limited to, low visibility, high winds, and/or high sea state, which could cause equipment or personnel emergencies or system malfunctions. NOAA small boats shall not be operated in known or forecasted conditions that exceed small boat or personnel limitations.

The OIC has the authority and responsibility to cease operations, return to port, or not depart from port if it is determined there is unnecessary risk to either personnel or the safety of the small boat. Any such decision should be based upon the results of the Operational Risk Assessment Form.

c. Float Plan Updates

The filed Float Plan shall be updated whenever the small boat will exceed the estimated time of arrival by more than 60 minutes, or whenever en-route plans or operations change substantially.

d. Radio Transmissions

Use of the small boat radios shall be professional and limited to the conduct of normal marine radio traffic and government business.

.04 Shut-Down Procedures

a. Use of Checklists

All NOAA boats are required to have a written checklist of shut-down procedures specific to each small boat. The OIC is responsible for ensuring the use of the checklist at the conclusion of each and every voyage.

b. Logbook Completion

The OIC shall ensure that all logbook entries are completed in a timely manner after the boat has been shut down. Entries shall include, at a minimum, actual time of arrival, final fuel information, ending engine hours, and any changes to the original Float Plan.

If a Trip Report is to be filed it shall be prepared and sent to the Vessel Operations Coordinator or his designee in a timely fashion upon completion of the

voyage or operation.

c. Equipment Malfunction Reporting

All equipment malfunctions shall be logged in the small-boat logbook (or Trip Report) on the day of discovery. The OIC shall report the malfunction to the Vessel Operations Coordinator on the day of discovery.

d. Float Plan Closure Procedures

Float Plans must be closed and notification of arrival must be made with the shore based designee within thirty minutes of arrival.

.05. Small Boat Clean-Up Procedures

A post-mission inspection shall be made in accordance with the Shut-Down Procedures Checklist in a timely manner after the boat is docked. The small boat shall be left in a state in which it could be immediately used if necessary.

.06. Office Float Plan Maintenance

Each Vessel Operations Coordinator or designee is responsible for maintaining and monitoring active Float Plans within his/her Line Office Program. The OIC shall communicate directly with the Vessel Operations Coordinator or designee to amend or close a Float Plan

.07. Float Plan Delinquency

If a small boat is delinquent (has not returned within 60 minutes of estimated time of arrival), the Vessel Operations Coordinator or designee shall:

a. Attempt to contact the small boat by satellite/cell phone or HF/VHF radio;
b. Check the boat slip personally or ask the local marina manager, Coast Guard, or any on-site personnel to do so, if practicable;
c. If no contact is made after 2 hours of delinquency or if sunset is near, notify the appropriate Program Director;
d. When appropriate, notify the USCG of delinquency and be prepared to provide Float Plan information;
e. Remain in the office or at the station until the boat has been contacted and either returns to the dock or has reached an alternate safe location;
f. If the boat is delinquent 4 hours or more and communications cannot be established with the small boat by the USCG, the Line Office Small Boat Officer should be contacted.

SECTION 7. SMALL BOAT CREW DUTY PERFORMANCE

.01 Crew Duties

All Small Boat Operators and Crewmembers will be trained and qualified to perform the duties expected of them at sea, whether on oceans, inland, or Great Lakes waterways. This includes all equipment, including: cranes, A-frames, hydraulic units, anchor windlass/winches, davits, compressors, as well as all small boats carried aboard and their engines.

.02 Watch Standing

The Program Director, VOC, and OIC shall make every effort to avoid situations requiring that anyone be on duty in excess of 12 hours in one day.

If unforeseen events require personnel on duty for greater than 12 hours the following applies:

a. All persons who are assigned as operator shall be provided a minimum of 10 hours of rest in any 24-hour period;

b. The hours of rest may be divided into no more than two periods, one of which shall be at least 6 hours in length.

c. The requirements for rest periods laid down in paragraph .02.a and .02.b need not be maintained in the case of an emergency or drill or in other overriding operational conditions.

d. Notwithstanding the provisions of paragraph .02.a and .02.b, the minimum period of 10 hours may be reduced to not less than 6 consecutive hours provided that any such reduction shall not extend beyond two days and not less than 70 hours of rest are provided each seven-day period.

Other requirements when applicable:

e. The VOC shall require that watch schedules be posted where they are easily accessible when applicable.

f. 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. MINIMUM EQUIPMENT

The safety, survival, and communication/navigation equipment specified in Appendix D and Appendix E of this Manual are the minimum required for safe operations. All survival equipment shall be maintained and, at a minimum, inspected or tested monthly in accordance with best-management practices and guidance in Section 9.02 (Drills and Frequencies). Additions and changes to these requirements may be necessitated by such considerations as small boat configuration, type and duration of missions, area of operations, and proximity to search and rescue assets. Individual survival gear shall be placed in areas accessible to all Small Boat Operators, Crewmembers, and embarked personnel so as to be readily available in an emergency.

.01. Emergency Equipment

a. Emergency Equipment.

See Appendix D of this Manual for the minimum required safety, firefighting, and lifesaving equipment that must be on board and maintained in a ready and serviceable condition before any NOAA small boat is operated. All lifesaving and firefighting equipment shall be USCG or Safety of Life at Sea (SOLAS) approved, or conform to military specification (with SBSB approval), or otherwise be approved by the SBSB, when applicable.

b. Emergency Position-Indicating Radio Beacon (EPIRB)

All EPIRBs must be properly registered with the NOAA SARSAT program, and registrations must be current. Prior to departure, the OIC shall ensure that the EPIRB battery has not expired and that the monthly test has been completed. In addition, EPIRB beacon identification registration information shall be reviewed at least annually to ensure that it contains valid emergency contact information.

c. Life Rafts/Floats

Life rafts/floats of sufficient capacity to accommodate all embarked personnel shall be carried onboard all NOAA small boats in accordance with Appendix D of this Manual.

d. Personal Flotation Devices (PFDs) and Immersion Suits

All personnel must have a PFD and or an Immersion Suit available in accordance with the NOAA PFD Policy (Appendix C).

.02. Communications and Navigation Electronics

The minimum communication and navigation equipment requirements for small boats are generally based on the distance from shore, support vessel or inhabited land that the small boat will operate from. (See Appendix E.) It is NOAA's

intention that no NOAA small boat will be without a method of direct verbal communications with a shore facility or support vessel.

Before any NOAA small boat gets underway, communication and navigation equipment must be maintained in a ready and serviceable condition.

.03. Other Equipment.

a. Personal Protective Clothing

All persons aboard NOAA small boats shall, at all times, wear protective footwear that is appropriate to the work that is being conducted. It is recommended that all personnel have appropriate foul-weather gear, including long-sleeve shirts, long pants, and a hat onboard the small boat for use in unexpected weather conditions or emergencies. Special operations may require the wearing of other safety equipment such as safety glasses, gloves, hard hats, safety harnesses, steel-toed shoes, etc. , based on the operational risk assessment.

SECTION 9. EMERGENCY PROCEDURES

.01 Responsibility

When an OIC experiences an underway difficulty or emergency, or believes that a situation exists that will create a difficulty or an emergency, the OIC must take the appropriate action to ensure the safety of the small boat and embarked personnel. The OIC is encouraged to use all personnel on the boat in a judicious manner to assist in responding to the difficulty or emergency. The OIC may deviate from approved procedures when a greater emergency would result from strict compliance with the procedures set forth in this Manual.

.02 Emergency Drills

OICs shall hold emergency training and drills to maintain crew proficiency in emergency procedures. Drills should be realistic and include, at a minimum: man overboard, fire, abandon ship and emergency communications. Small Boat Operators, Crewmembers and any others aboard at the time are required to participate.

a. Aboard Class A, Class I, and Class II Small Boats.

Man-overboard, fire, abandon-ship and emergency-communication drills/training shall be conducted annually for boat operators and crew. A safety briefing shall be conducted immediately prior to sailing for all embarked personnel explaining man-overboard, fire, abandon-ship and emergency-communications procedures.

b. Aboard Class III and SRVs.

The following table is an example list of drills and frequencies. Upon completion, all drills shall be logged.

EMERGENCY DRILLS/INSTRUCTIONS	MONTHLY	QUARTERLY	6 MONTH	1 YR
Fire Drill (In Different Locations)	X			
Abandon Boat Drill	X			
Man Overboard Recovery Drill	X			
Flooding Control Drill	X			
Distress Radio Call Drill	X			
Use of Visual Distress Signals	X			
Immersion Suit and PFD Donning	X			
Launching Survival Craft/Rescue Boat	X			
Activating the General Alarm	X			
Reporting Inoperative Alarm Systems	X			
Loss of Steering Drill		X		
Diver Accident Drill			X	
EQUIPMENT INSPECTIONS/SERVICE	MONTHLY	QUARTERLY	6 MONTH	1 YR
Annual Small Boat Examination (ASBE)				X
Portable Fire Extinguishers	X			X
Fixed Fire Extinguishing Systems	X			X
Fire Detection Systems	X			X
Dewatering Pump	X			
EPIRB Battery & Release Expiration				X
SART Battery Expiration				X
Life Raft Hydrostatic Release Expiration				X
Inflatable Life Raft	X			X
PFD, Immersion Suit, Work Vest Lights	X			X
Ring Life Buoy Condition & Waterlights	X			X
Automatic Defibrillator	X			
EQUIPMENT TESTS	MONTHLY	QUARTERLY	6 MONTH	1 YR
EPIRB	X			
Search & Rescue Transponder (SART)	X			
Launch and Run Rescue Boat/Tender		X		
Run Dewatering Pump		X		
High Water Alarms		X		
Automatic Bilge Pump Switches		X		

.03 Emergency Communications

As soon as practicable after completing the tasks necessary to stabilize an underway emergency or immediately if an emergency is catastrophic; the OIC shall furnish the USCG with a description and assessment of the situation, request any assistance necessary, state intentions for handling the emergency, and provide any other pertinent information. When time permits, the OIC should notify the designated POC on shore, in accordance with the Communications and Float Plans.

During an emergency, at least one VHF radio shall be continually tuned to either Channel 16, or an alternate frequency if requested by the USCG.

All small boats shall carry communications equipment in accordance with Appendix E of this Manual. Class III and SRVs, shall include written instructions on the use of all communications equipment carried aboard in the Small Boat Operating Manual. In addition, simple, thorough instructions on how to place an emergency distress call shall be posted next to each type of emergency-communications equipment.

.04 Emergency Procedures

Each field office shall develop small boat-specific emergency procedures for applicable emergency situations. Such as:

a. Abandon Ship
b. Fire
c. Man Overboard
d. Flooding
e. Launching a Raft
f. Donning Immersion Suits and PFDs
g. Donning SCBA and Fire Suits (if so equipped)
h. Making Distress Calls and Using Distress Signals
i. Activating the General Alarm
j. Reporting Inoperative Alarms

SECTION 10. ACCIDENT REPORTING AND INVESTIGATION

.01. Major Incidents

Small Boat Program activities shall follow all existing policy regarding the reporting of accidents.

The affected Program Director (or designee) shall notify the Line Office Small Boat Officer and Safety and Environmental Compliance Office (SECO) Representative of a small boat accident or incident when it involves any of the following:

a. Unintentional grounding for greater than 24 hours;
b. Explosions;
c. Sinking;
d. Fire;
e. Collisions involving breach of hull integrity;
f. Any incident which results in damage in excess of $10,000 to the small boat, its systems, or its equipment;
g. Incapacitating injury requiring professional medical attention or hospitalization, or loss of life of any person;
h. Unintentional and extensive flooding (self-bailing boats excluded);
i. Discharge of oil or any substance violating local, State, or Federal Regulations;
j. Failure of gear and equipment and any other damage that may affect or impair a small boat’s seaworthiness; or
k. Damage/harm to a protected or endangered natural resource or species.

When the cause of the accident is not clearly evident, the Program Director shall initiate an investigation consistent with NOAA's Safety Policy NAO 209-1. Findings and recommendations resulting from the investigation shall be made available to the Program Director, Line Office Small Boat Officer, AA, NOAA Small Boat Program Manager, OMAO Small Boat Engineer(s), and the Director, OMAO.

Findings and lessons learned from an accident or accident investigation shall be distributed by the NOAA Small Boat Program Manager to the NOAA small boat-user community. The identity of the small boat, personnel, and program or facility associated with the accident will remain anonymous.

.02. Minor Incidents and Close Calls

SBSB requests minor incidents of equipment damage or other non-reportable accidents and close calls be reported for the purposes of lessons learned and safety metrics. This is a common procedure at other organizations to enhance safety, reduce mishaps, and identify problems with equipment, procedures and training. Minor incidents and close calls may be reported using the reporting forms available on the SBP web site (www.sbp.noaa.gov).

.03 Investigation Assistance

The NOAA Small Boat Program and SECO will collaborate to ensure investigators are familiar with both the NOAA safety policy and small-boat policy and operations.

SECTION 11. HAZARDOUS MATERIALS/WASTE MANAGEMENT AND POLLUTION PREVENTION CONTROL

.01. Environmental Compliance

All NOAA small boats shall operate in full environmental compliance with Federal, State, local and NOAA requirements. NAO 216-17 NOAA ENVIRONMENTAL COMPLIANCE PROGRAM Policy provides guidance on responsibilities to ensure regulations are followed to protect the environment and promote environmental stewardship of our natural resources. Each Program's Vessel Operations Coordinator will assist with all environmental-compliance requirements and work with the Chief Scientist(s) to ensure that this management policy is properly executed and that any problems are promptly brought to the attention of the Program's Director.

.02. Hazardous Materials

All hazardous materials/substances required to carry out the objectives of an embarked scientific party, including ancillary tasks, are the direct responsibility of the embarked designated Chief Scientist, whether or not that Chief Scientist is using the materials directly.

An inventory of all hazardous materials and a Material Safety Data Sheet (MSDS) shall be available for all hazardous materials carried aboard. Updated MSDS sheets shall be forwarded to the Vessel Operations Coordinator at least two weeks prior to getting underway, if not already on file. Copies of each MSDS will be available when the hazardous materials are loaded aboard.

The embarked scientific party, under the supervision of the Chief Scientist, shall explain the spill-response procedures during the pre-departure briefing. This includes providing properly-trained and equipped personnel for response, as well as the necessary neutralizing chemicals and clean-up materials. A spill response will be a collaborative effort between the Chief Scientist and the boat crew

The Chief Scientist or scientific party shall ensure that neutralizing agents, buffers, and/or absorbents in amounts adequate to address spills of a size equal to the amount of chemicals brought aboard. This spill-response material must accompany the chemicals when they come aboard.

Upon departure, visiting scientific parties will provide an inventory of hazardous materials to the VOC showing that all hazardous materials brought aboard have been depleted or removed as an unused but usable product. The visiting scientific party is responsible for the off loading and disposal/transportation of all hazardous waste or unused but usable product

Hazardous materials shall be off loaded by visiting scientists in compliance with DOT regulations for transporting. http://hazmat.dot.gov/

.03. Pollution Prevention Control

a. Oil or oily water shall never be intentionally discharged into the environment.

b. If bilges are contaminated with oil NOAA small boats shall:

1. Have appropriately approved OWS equipment or use oil absorbents if overboard discharge is necessary to ensure safe vessel operation;

2. Or retain all oily wastes on board for discharge to a shore-side disposal facility. This will require that the automatic bilge pump serving the small-boat engine compartment be secured during normal operations.

c. Oil absorbent materials may be used in the bilge to absorb oils. Ensure the oil absorbents are secured in the bilge to avoid clogging the bilge pump or its sensor.

d. Boat crews are to be trained with respect to small-boat environmental-protection requirements. Exception to these procedures is permitted for the purpose of securing the safety of the small boat and those on board or of saving life.

e. Small boats operators should develop refueling procedures to prevent accidental spills during refueling or maintenance of the small boat. Small Boats shall keep a supply of oil absorbent materials onboard to respond to a spill of petroleum product.

f. All hazardous waste generated shall be managed in accordance to Federal, State and local regulations. The transportation of hazardous waste shall be in accordance with DOT regulations. http://hazmat.dot.gov/

.04. Marine Sanitation Devices

All recreational boats with installed toilet facilities must have an operable marine sanitation device (MSD) on board. Vessels 65 feet and under may use a Type I, II or III MSD. Vessels over 65 feet must install a Type II or III MSD. All installed MSDs must be Coast Guard certified. Coast Guard certified devices are so labeled except for some holding tanks, which are certified by definition under the regulations.

When operating a vessel on a body of water where the discharge of treated or untreated sewage is prohibited, the operator must secure the device in a manner which 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).

SECTION 12. SMALL BOAT INSPECTION REQUIREMENTS

.01 General

NOAA's Small Boat Inspection Program is designed to ensure that standards of safety are maintained at an acceptable level in order to minimize risk.

The items of safety, survival, and communication/navigation equipment specified in Appendix D and Appendix E of this Manual are the minimum required for safe operations. All survival equipment shall be maintained, inspected or tested monthly, at a minimum, in accordance with best management practices and guidance in Section 9. Additions and changes to these requirements may be necessitated by such considerations as small boat configuration, type and duration of missions, area of operations, and proximity to search and rescue assets. Individual survival gear shall be placed in areas accessible to all Small Boat Operators, Crewmembers, and embarked personnel to be readily available in an emergency.

.02 Responsibility

a. The SBP Inspection Coordinator is responsible for managing an annual inspection program for all Class III and SRV vessels.

b. The Small Boat Safety Board (with input from the SBP office) is responsible for managing an inspection program for Class A, Class I and Class II boats and all boat trailers.

c. Program Directors or their designee(s), in cooperation with the NOAA Small Boat Program, are responsible for ensuring that all small boats not covered in Section 12.02.a are inspected in accordance with the provisions of this Manual.

d. Vessel Operations Coordinators shall ensure appropriate routine inspections are conducted by OICs. VOCs will also ensure that all annual inspections are reported to their LOSBO and the NOAA Small Boat Program Coordinator in a timely manner.

.03 Inspection Procedures for Class A, Class I and Class II boats and all boat trailers

a. Annual Small Boat Evaluation (ASBE)

NOAA Class A, I, and II ASBEs shall be performed by the VOC or their designee (who must also be familiar with NOAA small boat policies) on an annual basis using inspection criteria set forth in the ASBE checklist and outline. The checklist and outline are available at the SBP website, http://www.sbp.noaa.gov.

b. Small Boat Examination (SBEX).

SBEX shall be performed by a certified marine surveyor or a person approved by

the Small Boat Safety Board. SBEX frequency shall be as follows: for Class II boats biennially (every 2nd year) and for Class I boats triennially (every 3rd year). Class A boats do not required SBEX. A list of qualified people to conduct SBEX is available on the SBP website, http://www.sbp.noaa.gov.

c. Annual Trailer Evaluations (ATE)

ATEs shall be performed by the VOC or their designee. The designee may be a professional trailer service company. Annual inspections shall incorporate guidance and inspection criteria set forth in the ATE checklist available on the SBP website, http://www.sbp.noaa.gov.

d. Completed ASBE, SBEX, and ATE reporting

Completed inspection checklists, reports, records of findings, and recommendations shall be signed by the inspector or surveyor and signed and retained by the VOC with a copy forwarded to and signed by the LOSBO. Notification of inspections will be reported to the SBP Coordinator. Reports shall be generated when numerous or significant deficiencies are noted, and then forwarded to the SBP Inspection Coordinator via the SBP Coordinator.

e. Exemptions

1. Canoes, Kayaks and Rowboats

Non-motorized canoes, kayaks and rowboats shall be exempt from SBEXs, but still must conduct ASBEs in accordance with this Manual.

2. Small Boats Aboard NOAA Ships

Small Boats aboard NOAA Ships are included with the ship's annual Fleet Inspection and are exempt from SBEXs. However, all motorboats based aboard NOAA Ships shall conduct an ASBE in accordance with this Manual and independent of the annual Fleet Inspection.

.04 NOAA SBP Inspection Procedures for Class III small boats and SRVs

The NOAA Small Boat Inspection Program was developed in response to the requirements and direction of NAO 209-1, the NOAA Safety Policy. The purpose of the NOAA Small Boat Inspection Program is not limited to merely checking for the presence of safety equipment. It is also to assure that all boats are managed, maintained, operated, equipped, modified, and/or upgraded in accordance with accepted standards, practices, and regulations in order to minimize the risks and hazards inherent with taking a craft to sea. Additional benefits of the inspection program include (a) providing a second set of eyes that are on the lookout for hazards, (b) promoting a cross-pollination of safety

related ideas, techniques, and equipment to keep all NOAA boats at the same high level of readiness, and (c) staying abreast of current statutory rules to assist the operator with this responsibility. It is not the purpose of the NOAA Small Boat Inspection Program to critique the operating unit.

The inspection criteria for NOAA Class III and SRV Small Boats are: a) 46 CFR Subchapter C, b) 46 CFR Subchapter T, c) 46 CFR Subchapter S, d) 33 CFR Subchapters D, E, F, O, and S, e) USCG Navigation and Vessel Inspection Circulars (NVICs), f) the Technical Standards of the American Boat and Yacht Council (ABYC), g) the National Fire Protection Association Standard (NFPA) 302, h) any promulgated NOAA HQ and line office-specific rules and regulations, etc., and i) "Good Marine Practice."

a. Scheduling Inspections

The Vessel Operations Coordinator for any Class III or SRV shall contact the SBP Inspection Coordinator in order to schedule a mutually acceptable date and time for an inspection. Written notification of the upcoming inspection shall be provided to the Vessel Operations Coordinator approximately one month before the agreed-upon date. Annual inspections shall be performed within a +/- 45-day window of the 1-year anniversary of the previous year's inspection.

b. Pre-Inspection and Records

When the inspector arrives on site, a pre-inspection meeting will be held to discuss logistics and other inspection-related matters. Vessel documents and records shall be ready and made available to the inspector for examination.

c. Inspection

The scope of the inspection is to determine that the vessel has been operated in compliance with the NOAA Small Boat Standards and Procedures manual since the last inspection and the vessel, in the inspector's opinion, will continue to do so safely until the next inspection. The VOC or their representative shall be required to attend the entire inspection. The vessel shall be made available for the entire day of the scheduled inspection. The operator 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 operators 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 vessel will be in an "operational" status. Testing of "fixed bilge systems" with a central pump and manifold will require adding fresh water to a compartment bilge for demonstrating that this system will take direct suction. If for some reason prior to the inspection that the vessel is "non-operational" it will be conveyed to the inspector immediately to determine if the inspection shall take place or be rescheduled.

d. Deficiencies

Any deficiencies found will be issued as Category 1 (prior to the vessel operating), or Category 2 (address within a specific amount of time). Deficiencies shall be issued prior to the inspector's departure as far as practical and acknowledged by signature of the VOC or their designated representative. In some cases additional research may be needed to clarify a deficiency after the completion of the inspection. These shall be acknowledged in writing by the VOC in a timely fashion after issuance. In all cases Category 1 deficiencies shall be issued in writing and acknowledged prior to the inspector's departure.

e. Drills

All vessels shall be required to get underway for drills to demonstrate crew proficiency and evaluate the effectiveness of the training program. In all cases, the VOC or OIC shall have the final decision as to whether the vessel gets underway taking into consideration the weather, manning, and operational risk assessment. If it is decided that the vessel is incapable of conducting drills, the reason shall be documented in the inspection report. In some locations, several vessels may be of the same type or nearly identical. It may be required that only one set of drills be performed on one vessel. The remaining vessels may conduct dockside trials at the inspector's discretion.

f. Post-Inspection Exit Briefing

Deficiencies shall be issued prior to the inspector's departure as far as practical and acknowledged by signature of the VOC or their designated representative. In some cases additional research may be needed and deficiencies issued after departure. These shall be issued to and acknowledged in writing by the VOC in a timely fashion after receipt. In all cases Category 1 deficiencies shall be issued in writing and acknowledged prior to the inspector's departure. Also be aware that the inspector's draft report is sometimes edited and revised by the NOAA OMAO Safety and Environmental Compliance Division. Occasionally, deficiency classifications and/or recommendations may change from what was discussed at the debriefing. In some cases additional research may be needed to clarify a deficiency after the completion of the inspection. In either case, additional items will not be added to the final report without first discussing the matter with the operating unit.

g. "Do Not Operate" Order

A SBP representative has the authority to prevent any small boat from operating if the Inspector determines that the small boat possesses deficiencies that represent a significant or unacceptable risk to life, property, or the marine environment. These are designated as Category 1 deficiencies. Category 1 deficiencies must be cleared by the Small Boat Program Vessel Inspections Coordinator or issuing

inspector prior to the vessel returning to service. This will be accomplished by the VOC or their designee making contact with the SBP and providing any information required for clearance of the deficiency.

h. Inspection Report and Response to Inspection Report

Within 45 days of an inspection the following will be done:

1. The Inspector generates a list of requirements and discusses it with the Vessel Operations Coordinator (VOC). This is generally done on-site after the inspection is completed.

2. The VOC reviews and comments on the list of requirements and forwards it to his/her Line Office Small Boat Officer (LOSBO).

3. The LOSBO and VOC develop a Corrective Action Plan. This plan could be as simple as a list of actions to be taken or already taken to address the given deficiencies. The LOSBO at his/her discretion may ask for input from their Line Office's Assistant Administrator (AA).

4. The VOC submits the Corrective Action Plan to the Small Boat Program Coordinator (or designee which generally is the SBP Inspection Coordinator).

5. The SBP Coordinator can continue discussion with the LOSBO and VOC if there are any questions to resolve further.

6. If satisfied, the SBP Coordinator writes up a final inspection report including corrective action taken and/or planned. This is then submitted to the Director, OMAO for signature and dissemination to AAs and the Small Boat Safety Board.

SECTION 13. SMALL BOAT ACQUISITIONS, ALTERATIONS, REPAIRS, AND DISPOSAL.

.01 Small Boat Acquisition

a. Program Directors, or their designees, shall assess the suitability of a new or used small boat, or a small boat design, in relation to cost, mission requirements, operational risk, safety, and environmental compliance prior to initiating a small boat purchase. The cost assessment and any required marine survey shall be forwarded to the respective senior management and budget official prior to any commitment.

b. Program Directors, or their designees, shall notify the NOAA Small Boat Program Coordinator:

1. Prior to a planned small boat acquisition that would require significant alteration or modification to the small boat after its delivery in order to meet mission requirements; or

2. Prior to any commitment to build a small boat to Government-furnished technical specifications.

c. When a small boat meets the criteria of Section 13.01.b. above, Program Directors, or their designees, shall ensure that contract specifications are written or reviewed by a professional marine engineer, a naval architect, or the Small Boat Program Coordinator. The review shall ensure that the resultant small boat will be properly configured with respect to all applicable standards and regulations for safety systems, stability, mission capabilities, sound marine engineering practices, environmental compliance, and Section 14 of this Manual, “NOAA Small Boat Visual Identification and Registration.”

d. Program Directors may exempt Class A, Class I, or Class II small boats from the requirement for assessing the suitability of a small boat prior to acquisition (see Section 13.01.a.) when the suitability and cost factors for the small boat to be acquired are already addressed or known from previous experience with similar craft engaged in similar missions.

.02 Marine Surveys

A survey conducted by the NOAA Small Boat Program, may be prudent for all vessels, but is not required prior to any commitment that will result in acquisition (regardless of cost considerations). The marine survey shall determine the condition and value of the small boat as well as the structural integrity and safety for its intended use. A marine survey is not required for a new boat or design.

.03 Alteration and Repair of Small Boats

a. All proposed alterations to NOAA small boats shall be reviewed by the Program Director or VOC to assess their potential impact on safety and mission of the boat. Program Directors, VOC's, or Line Office Engineers shall seek advice or guidance from the Small Boat Program Coordinator to ensure that the work will be done in accordance with the rules, regulations, and NOAA policies, applicable to the particular class of small boat.

b. Alterations and repairs shall be performed in accordance with applicable marine-engineering standards, rules, instructions, stability requirements in Appendix F, and this program manual. A listing of current and potentially applicable standards, rules, instructions, and regulations is provided on the Small Boat Program web site, or contact the Small Boat Program Coordinator for assistance.

c. For all significant alterations, Program Directors or VOC shall seek marine engineering services through the Small Boat Program Coordinator, or a professional marine engineer. Significant alteration or modification is a change to the configuration of a boat with regard to structural, mechanical, or electrical systems. Examples of significant alterations include the addition of structures or winches, the addition of any weight handling gear (e.g., A-frame, crane, and articulated boom), replacement of inboard propulsion engines, installation of electric generators, lengthening of a vessel, or addition of a bow pulpit.

d. Records, such as drawings or weight and moment reports, resulting from the alteration of boats shall be maintained at the appropriate program office and copies provided to the Small Boat Program.

.04 Disposal of NOAA Small Boats

a. Disposal of vessels shall be compliant with GSA procedures. Guidance is available under the Frequently Asked Questions section of the Small Boat Program website, http://www.sbp.noaa.gov.

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

SECTION 14. NOAA SMALL BOAT VISUAL IDENTIFICATION AND REGISTRATION

.01 General

A uniform identification scheme is necessary to develop and promote public recognition of NOAA small boat activities in the coastal environment. A uniform numbering system is required by U.S. Code for the purpose of identification.

.02 Requirements

All NOAA small boats must comply with the visual identification and registration requirements specified in this Manual.

.03 Responsibility

NOAA Programs that own small boats are responsible for:

a. Complying as closely as practicable with the visual identification guidelines listed in this Manual; and

b. Registering any new small boat or existing small boat not already registered with the NOAA Small Boat Program Manager.

The NOAA Small Boat Program Manager shall be responsible for issuing hull-registration numbers.

.04 Visual Identification

a. NOAA Emblem

Display of the NOAA emblem is intended to promote public awareness of NOAA programs. Questions relating to the placement of the NOAA emblem shall be directed to the NOAA Small Boat Program Manager.

1. Broadside Position

(a) On boats that have a cabin, deck house, or a steering console, NOAA emblems shall be placed on both the port and starboard side of the cabin, deck house, or console at a location that is least obstructed from a clear broadside view. Emblems shall be sized to be as large as possible for the available surface area.

(b) On boats without a cabin, deck house, or steering console, NOAA emblems shall be placed on the forward portion of both the port and starboard bow.

2. Transom Position.

(a) Boats with a full and unobscured transom shall display the NOAA emblem centered on the transom. The emblem shall be sized to be as large as possible for the available surface area and must account for the area required for the hull-registration number placement below the emblem.

(b) Catamarans, canoes, and other boats with either insufficient transom area to adequately display the NOAA emblem in a centered position, or boats with a transom obscured by a centerline notch, bracket, ramp or other device, shall display the NOAA emblem on the port side of the transom outboard of the hull-registration number. Emblems placed on the transom in this position shall be sized as closely as possible to match the font size of the NOAA hull-registration number.

3. Optional Position

An additional NOAA emblem may be displayed on the port and starboard bow of any class motorboat or SRV when the size of the bow provides adequate surface area and it is determined that the additional NOAA emblems enhance the boat marking scheme.

4. NOAA Emblem Ordering

Current and additional information pertaining to ordering NOAA emblems can be found on the NOAA Small Boat Program web site. http://www.sbp.noaa.gov

b. Line and Staff Office Specific Boat Marking

1. NOAA Line and Staff Offices may develop specific boat-marking schemes. Specific boat-marking schemes shall be applied consistently to all boats owned by the Line or Staff Office. Specific boat-marking schemes shall not infringe upon, be similar to, or be able to be construed as being similar to, any existing vessel-marking schemes in use by any vessel, or fleet of vessels, either public or private.

2. NOAA Line and Staff Offices may display the program name on their boats. Program name lettering shall follow the guidelines for boat name and hull-registration numbers as closely as practicable.

c. Boat Name and Hull Registration Number

Boat name and hull-registration numbers shall be:

1. Block-shaped capital letters in sans-serif (Arial) type font;

2. Of a color providing contrast with the background hull color, usually black; and,

3. Sized as follows:

Small Boat Category	Letter Size
Class A	3 inches
Class I	3 inches
Class II	6 inches
Class III	6 inches
Small Research Vessel (SRV)	9 inches

d. Hulls

The hull of boats shall comply with the following visual guidelines:

1. Fiberglass. Color shall be that of pigment used in the original fiberglass lay up. Programs acquiring new boats should specify a white hull when available.

2. Wood or Steel. Color shall be white. Exemptions for existing boats painted colors other than white shall be considered by the NOAA Small Boat Safety Board on a case-by-case basis.

3. Aluminum Structures. Marine-grade aluminum hulls or structures are not required to be painted.

e. Structures

The house, or any structure used to house cargo, personnel, or laboratory space that extends above the main working deck, shall be white.

f. Weight-Handling Equipment

Cranes, winches, or other weight-handling gear shall be black.

g. Exterior Decks and Ladder Treads

To the extent possible, exterior decks and ladder treads shall be gray. Boats of fiberglass construction are exempt from this requirement.

h. Masts and Rigging

Masts and rigging shall be black or buff.

i. Boot Top

Boot topping, if applied, shall be black.

.05 Exemptions

Requests to exempt a small boat, or to deviate from the standards described in items Section 14.04.a through Section 14.04.i of this Manual, for reasons other than those listed in items Section 14.05.a through Section 14.05.e, shall be transmitted to the NOAA Small Boat Program Manager for review and action by the Small Boat Safety Board.

a. Rigid-Hull Inflatable Boats
Existing rigid-hull inflatable boats are exempt from the visual identification requirements. Although exempt from these items, existing rigid-hull inflatable boats should attempt to comply with the identification requirements where practicable. New rigid-hull inflatable boats should comply with the visual identification requirements where practicable and to the extent that it will not place unreasonable demands on program resources.

b. Established Recognition
Existing boats with established public recognition may be granted an exemption from the visual identification requirements when this established recognition is critical to mission success or necessary to prevent harassment by marine authorities or other mariners.

c. 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. Restoration of the boat to the visual identification requirements of this Manual shall be at the earliest possible time after the passage of the perceived or possible threat.

d. Unique or Extreme Operating Hazards
Exemption from the visual identification requirements may be granted by the Program Director if it is determined that another marking scheme greatly enhances the visibility, and therefore safety, of a small boat (e.g., marking the house or hull of a boat with high contrast highlights to provide better visual detection when the small boat is frequently navigated in fog or heavy weather).

.06 Flags

a. All Flags
When practical, all small boats shall follow the policy and procedures regarding the flying of flags contained in NAO 201-6, Official Flags of NOAA.

b. Sizes
The flag of the United States shall be the highest and largest flag flown aboard a small boat when other flags are flown in conjunction with the flag of the United

States. Flags of the United States should comply with minimum size requirements for each class of small boat as follows:

Small Boat Category	Flag Size
Class A	determined by the Program Director
Class I	12 inches by 18 inches
Class II	16 inches by 24 inches
Class III	20 inches by 30 inches
Small Research Vessel (SRV)	24 inches by 36 inches

.07 NOAA Hull-Registration Numbers

a. NOAA registration numbers shall be issued by the NOAA Small Boat Program Manager. Registration numbers shall be composed of up to six (6) characters.

1. The first character shall be a letter and assigned as follows:

First Character	Description
F	any boat assigned to NOAA Fisheries
S	any boat assigned to NOAA's National Ocean Service and primarily engaged in hydrographic survey, charting, or activities related to the testing and evaluation of hydrographic survey gear
R	any boat assigned to NOAA Research or NOAA's National Ocean Service and primarily engaged in research other than hydrographic survey or charting, or any boat assigned to NOAA's National Weather Service or to NOAA Satellites and Information
None	any boat assigned to a NOAA Staff Office, such as Office of Marine and Aviation Operations.

2. The second and third characters shall be a number corresponding to the length overall (LOA) of the small boat measured in feet and rounded down to the nearest whole foot length, or LOA as provided by the boat manufacturer.

3. The fourth, fifth, and optional sixth characters shall be a number determined by the NOAA Small Boat Program Manager and assigned in sequential order. The optional sixth digit may be utilized when inventory in a specific length category exceeds 99 total boats.

b. Program Directors, or Vessel Operations Coordinators, shall submit the following information to the NOAA Small Boat Program Manager when requesting a hull-registration number:

1. Length overall (LOA);

2. Hull construction material(s);

3. Builder/Brand;

4. Mission;

5. Propulsion plant type, configuration, and horsepower;

6. Vessel Operations Coordinator;

7. Ownership (Line or Staff Office/program);

8. Home port or usual storage location; and

9. Any other requirements listed on the form available on the website at http://www.sbp.noaa.gov/.

c. NOAA Hull-Registration Number Display.
NOAA small boats shall display a specific NOAA registration number in the following manner.

1. Bow. The number shall be displayed on the forward section of the port and starboard bow. If the small boat name is displayed on the port and starboard bow, the number shall appear beneath the name, left justified on the port bow, right justified on the starboard bow, and of similar size font as the small boat name. The NOAA emblem, if displayed on the bow, shall be positioned forward of the small boat name and NOAA registration number.

2. Transom. The NOAA registration number shall be applied to the transom of all small boats as follows:

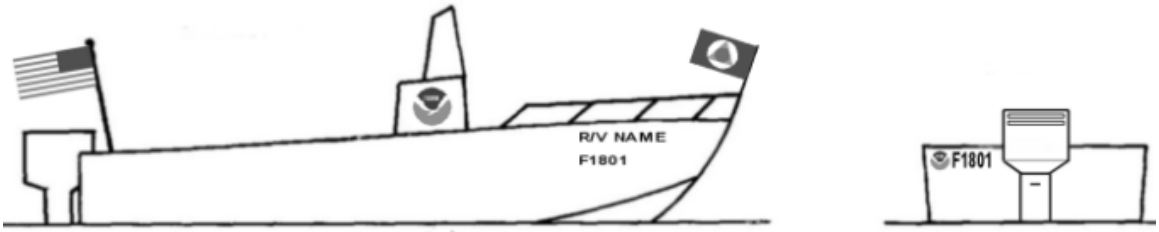
(a). Full transom - centered below the NOAA emblem, and sized in accordance with the guidance in Section 14.04.a.2.(a) of this Manual; and

(b). Small boats with transoms described in Section 14.04.a.2.(b) - on the port side, left justified to the NOAA emblem and sized in accordance with Section 14.04.c.3 of this Manual. (Note: Where application of Section 14.04.c.3 is not practical, the NOAA emblem and NOAA registration number shall be sized to be as large as possible within the given area.)

d. Variation. Variations to the display requirements for NOAA registration numbers shall be considered on a case-by-case basis. Requests for variations shall be submitted by the Program Director, or designee, to the Small Boat Program Manager.

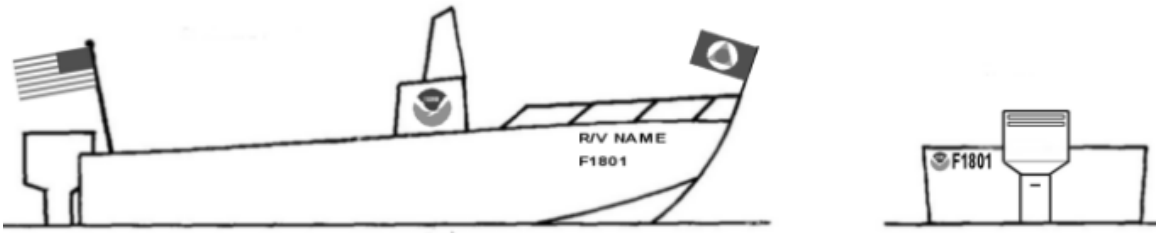
.08. Examples of NOAA Small Boat Hull Markings

Drawing 1 - Typical Class A and Class I NOAA Visual Identification and Numbering, Starboard Profile and Obscured Transom.



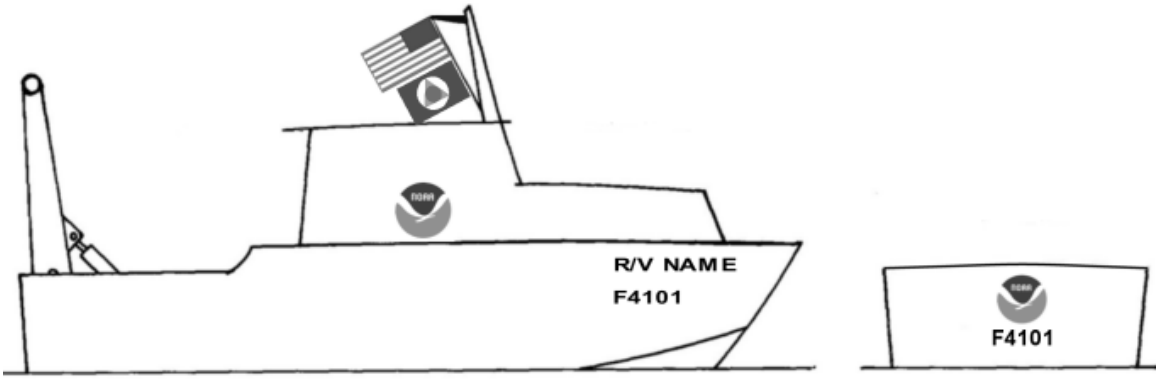
NOTE: Additional NOAA Emblem may be placed forward of the name and hull identification number on bow.

Drawing 2 - Typical Class II Small Boat Visual Identification and Numbering, Starboard Profile and Obscured Transom.



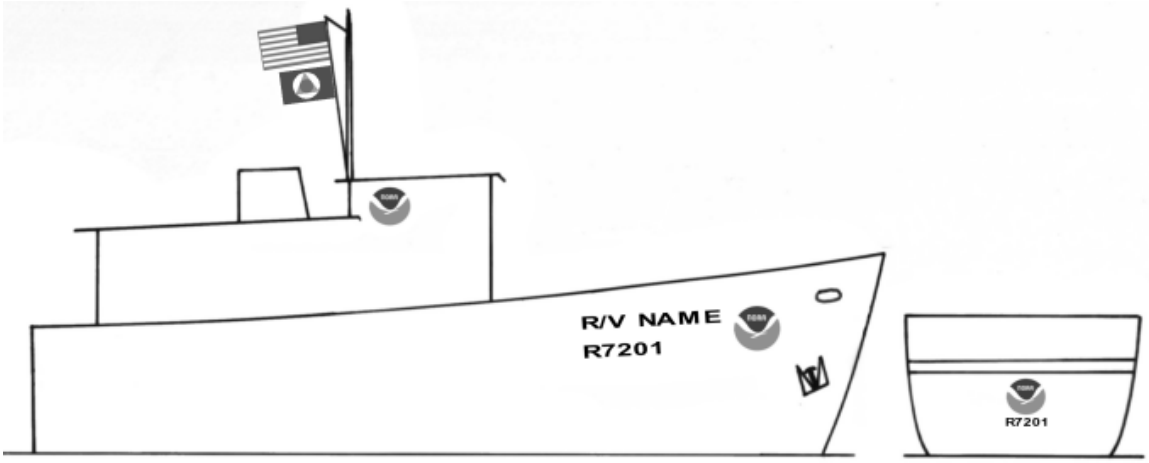
NOTE: NOAA Emblem on bow is required due to the lack of a console or deck house.

Drawing 3 - Typical Class III Motorboat Visual Identification and Numbering, Starboard Profile and Full Transom.



NOTE: Additional NOAA Emblem may be placed forward of name and hull identification number on bow.

Drawing 4 - Typical Small Research Vessel Visual Identification and Numbering, Starboard Profile and Full Transom.



NOTE: NOAA Emblem on bow optional.

SECTION 15. CONFIGURATION MANAGEMENT

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SECTION 16. MAINTENANCE

.01 General

This Manual requires the establishment of a NOAA Small Boat Maintenance Program. The objective of the NOAA Small Boat Maintenance Program is to ensure the Small Boat Fleet is capable of meeting all scheduled operational requirements with all systems and equipment fully functional. Optimization of Small Boat readiness is accomplished by preventing and minimizing hull, mechanical and electrical system casualties that degrade a boat's mission capabilities. The most effective maintenance programs are achieved through the efficient use of available resources (time, people, funding, etc.). In those instances where it is not possible to achieve that objective, risk management is used to make decisions concerning when and what repairs can be accomplished

.02 Types of Maintenance

a. Corrective Maintenance

Corrective Maintenance is the performance of scheduled or unscheduled task to restore a boat or equipment after failure has occurred. In most cases, a failure will have a detrimental effect on the boats operational capabilities, the operating environment, or the safety of personnel.

b. Preventive Maintenance

Preventive Maintenance outlines minimum maintenance requirements and procedures for hull, mechanical and electrical systems aboard a NOAA small boat. Procedures are prescribed for inspecting, cleaning, and reconditioning machinery and equipment, to counter the effects of age and environment. Accomplishment of preventive maintenance will increase machinery reliability and availability. Rescue and survival equipment is to be maintained according to the manufacturer specifications, or technical manuals.

c. Alterative Maintenance

Alterative Maintenance improves system performance or a boats capability by changing the configuration to meet operational, safety, or economic requirements.

.03 Casualty Reporting and Categories

a. Casualty Reporting

All casualties should be tracked from incident date to completion of repairs by the VOC or designee. Casualty records shall be maintained at the VOC level. Each LOSBO will determine their reporting requirements for all categories.

b. Casualty Categories

Category 1 (CAT 1)
Deficiency exists in operational essential equipment and causes a loss of a boat's primary operation (e.g., catastrophic loss of propulsion or steering, hull damage that compromises structural/watertight integrity, inoperable fire protection and/or life saving equipment). Repairs are required to be completed prior to the use of the boat, or essential equipment.

Category 2 (CAT 2)
Deficiency exists in operational essential equipment which causes a major degradation, but not the loss, of a boat's primary operation. (i.e. reduction in propulsion or maneuverability, unusual noise or vibrations, inoperable auxiliary equipment or systems) Repairs can be accomplished at the end of an operational day, or prior to next operational period.

Category 3 (CAT 3)
Deficiency exists in operational essential equipment which causes a minor degradation in a boat's primary operation. Repairs can be accomplished during the next maintenance period, or haul out.

.04 Financial Support for Small Boat Maintenance

Each Program must provide adequate financial support for all maintenance requirements for all the small boats in that Program's possession. Sufficient funds should be in place for all annual repairs, dry-dock periods, and mid-season upkeep and repairs.

SECTION 17. WEIGHT LIFTING EQUIPMENT CERTIFICATION AND MAINTENANCE

.01 General.

a. Applicability.

1. Capacities and Limits.

This section describes the full rated capacities and Safe Working Load (SWL) limits of booms, cranes, davits, A & 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 policy does not take into consideration the effects of other loading forces (boat acceleration and moment, drag, and snags) which may increase the total weight being supported by an apparatus and associated components. An operational risk assessment shall be conducted prior to use of all weight handling apparatuses in accordance with Section 6.01 and Appendix G-Operational Risk Assessment Form of this manual.

2. National Oceanic and Atmospheric Administration, Federal Agencies Program (FAP) and OSHA References.

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

(a) NOAA Administrative Order 209-1
(b) SBSPM Section 6
(c) 29 CFR 1960, Basic Program Elements for Federal Agencies
(d) 29 CFR 1919.1, Gear Certification – Purpose and Scope
(e) 29 CFR 1919 Subpart C, Duties of Persons Accredited to Certificate Vessels Cargo Gear
(f) 29 CFR 1919 Subpart D, Certification of Vessels Cargo Gear
(g) 29 CFR 1919 Subpart E, Tests and Proof loads
(h) ASME B30
(i) OSHA OMCA GD 93/2 (Rev 8/10)(B)

b. Definitions.

1. 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, which allows the boom or frame to pivot while transferring loads to structure. Rigging mounted on ships structure supports booms and frames.

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

3. Winch: A stationary motor-driven or hand-powered machine used for hoisting or hauling, having a drum around which is wound a manmade rope, wire rope, or chain attached to the load being moved.

4. Safe Working Load (SWL): This is the maximum weight which can be handled safely 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 apparatuses SWL may be limited by the maximum rating of a component used in conjunction with an apparatus.

5. 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 SWL 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 shall take a permanent set, nor shall degradation of any operating or control function occur as a result of the test.

.02 Boom, Crane, Davit, Frame, and Winches Inspections.

Unless more specific guidance is provided by the manufacturer, inspections and overhauls shall be conducted using guidance contained herein from 29 CFR 1919. Pre-mission Inspection shall be conducted by the boats crew prior to 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. Quadrennial Inspections (4 years) only apply to weight handling equipment which is 200 pounds or greater and shall be completed by an OSHA accredited person as per 29 CFR 1919.11.

a. Inspection Schedule.

Inspection frequency shall be conducted as follows; Pre-mission Inspection, Annually, and Quadrennial (4 years) basis in accordance with 29 CFR 1919. A grace period of 6 months is allowed for Quadrennials as per 29 CFR 1919.18.

1. Pre-mission Inspections.

(a) 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 prior to each mission day as per SBSPM Section 6.01 (h).

(1) A visual inspect of a boom, crane, frame, or winch and all sheaves, swivels, blocks, block hangers, padeyes, connecting links, shackles, hooks, wire, ropes and associated pins for corrosion, wear, deformation, cracks and any other condition that may lead to failure.

(2) Upon completion of the visual inspection, results shall be log or recorded to indicate inspection was conducted. Any deficiencies or limitation to the equipment on board shall be reported immediately to the VOC prior to departure.

2. Annual Inspection and Test Requirements.

(a) 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.

(1) In general, the inspection shall include all wire and manmade rope, fittings, block fittings, hooks, links, shackles and associated pins, swivels, boom and frame padeyes, hoist control linkages, brake springs and linkages

(2) Any visible permanent set or deformation in the form of bent pins, elongated holes, bent or distorted staples and padeyes are clear indications of overload or improper rigging. Their incidence should 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, paint shall be removed and surfaces wire brush cleaned.

(b) Inspection. The following requirements are generic in nature, and shall be included in inspections as applicable in 29 CFR 1919.11 & .12.

(1) Cradle, or securely position the boom, crane, davit, or frame and remove all wire or manmade rope. Inspect the wire or manmade rope in accordance with 29 CFR 1919.24.

(2) Visually inspect all sheaves, swivels, blocks, block hangers, padeyes, 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 shall include sheave gage wear measurement IAW 29 CFR 1919 Subpart E.

(3) 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.

(4) Inspect and lubricate all moving parts and wire rope in accordance with the manufacturer technical manual or Preventive Maintenance System.

(5) Self contained reservoir gearboxes with less than five gallons of lube oil shall have the gear lube replenished. 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. Gearboxes with capacities in excess of five gallons shall have oil samples drawn for analysis as per good engineering practice.

(6) Visually inspect all deck and bulkhead padeyes, links, chocks, cleats, bits, and mounting bolts. Where inspection indicates possible fractures, deformation or corrosion, a more detailed inspection shall be conducted.

3. Quadrennial Inspection (Only applies equipment designed to lift more than 200 pounds).

(a) General. The intent is to accomplish the Annual 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 need 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 observation of wear patterns. Outside appearance is not necessarily indicative of the mechanical condition of the equipment.

(b) Quadrennial Inspection. The following requirements are generic in nature and may be required by an OSHA accredited person as per 29 CFR 1919.11(d) & .12. The attending accredited person will determine the extent of disassembly required. Specific guidance in the manufacturer's technical manual shall take precedence.

(1) Remove the arm, boom, or frame, disassembling the connection, between the boom or frame and the vessel that allows slewing motion.

(2) Disassemble and inspect topping lifts, vangs, swivels, all blocks, hoist brakes, locking pawls, slewing gear, and pinion gear shafts and bearings. All pin, bearings, gears and sheaves shall be checked for compliance with dimensional tolerances shown on the original equipment drawings.

(3) Replace wire rope, as required. Wire rope shall be replaced 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.

(4) Inspect brake linings and brake discs, if applicable.

(5) Gear boxes that are equipped with inspection plates shall have backlash and gear pattern inspected in accordance with manufacturer's instruction manuals.

(6) Perform a static test (125% of SWL Limit) on all equipment or bulkhead mounted links and padeyes used in the boom and frame systems for 5 minutes.

(7) Cleats and bitts associated with boom and frame systems shall be visually inspected and non-destructively examined using dye penetrant or other method deemed suitable.

.03 Overhauls

Overhaul of components shall be based on equipment condition or evidence of problems.

1. Inspection and testing may be waived if the system is evaluated by diagnostic means.

   (a) Diagnostic means are conducted by the manufacturer in a controlled environment. A certificate of inspection and test results will be issued by the manufacturer.

2. General. This level is to accomplish the requirements of the quadrennial inspection after overhaul, plus if required, the requirements in the manufacturers technical manual.

3. Inspection. The follow components listed below should also be inspected during an overhaul.

   (a) Inspect and overhaul as required all pneumatic components.

   (b) Inspect and overhaul as required all hydraulic components to include pumps, motors, control valves, accumulators, rams, etc.

   (c) 125% of the SWL of the boom or frame. The test shall 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.

   (d) Rated Load Tests (100% of SWL Limit) shall be conducted while underway to prove the installation of a wire and manmade rope, fitting, or other repair conducted underway.

.04 New or Altered Structures and equipment.

1. General. Prior to installing any new boom, crane, davit, frame, or winch on board a NOAA Small Boat, the VOC shall contact the Small Boat Program Coordinator for assistance. The replacement of components in kind does not require the VOC to contact the Small Boat Program, but the below steps are required to be completed prior to use.

   (a) Commercially manufactured apparatuses and components shall be tested at 125% of the intended use. Tests shall 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.

   (b) Experimental and In-house constructed apparatuses and components shall be initially tested at 150% of the designed safe working load. Tests shall 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.

   (c) Rated Load Tests (100% of Working Load Limit) shall be conducted while underway to prove the installation of a wire and manmade rope, fitting, or other repair conducted underway.

.05 Safety.

a. Stability Documentation.

1. Small Boats with booms, cranes, davits, frames or winches should have vessel stability documentation (Stability and Loading Data Booklet or equivalent), which addresses the stability of the vessel with the weight handling equipment in use.

2. Where the stability of the vessel limits the operational capability of the weight handling equipment, a graphic safety placard shall be prominently displayed at the equipment operator's station to describe the limitation, and graphically show the safe working zone and safe working load while operating at sea.

3. When considering a boat's stability characteristics during testing procedures, specified test loads shall be maintained 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, the load shall be reduced accordingly to stay within those limits.

b. Label Plates. Engraved or stenciled label plates shall be installed on Small boats booms, cranes, davits, and frames to document the Safe Working Load (SWL), test weights, and date of certification of the load test.

c. Safety Precautions. The following safety precautions must be observed when conducting weight handling equipment tests.

1. To prevent excessive damage in the event of equipment failure during tests, dunnage shall be placed under test loads and each load shall be kept as close to the deck as possible.

2. Wire ropes, slings, straps, chains, rings, shackles, and other loose gear shall be tested, or stamped with weight tested limits by the manufacturer as per 29 CFR 1919. 31.

3. To prevent loads from moving off center in the event of a casualty, preventer lines or cables shall be rigged athwartships from the test load. At minimum, the breaking strength of the preventers must be greater than or equal to the test load.

d. Documentation of Test Results.

1. The results of the inspections and tests prescribed shall be entered in the Small Boat's Hull History record or logs.

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

SECTION 18. RIGGING GUIDANCE

.01 General.

a. Applicability.

1. Rigging. This section describes the use and inspection of rigging equipment and is defined as a system of ropes, chains, and tackle is being used to control, haul, hoist, retrieve, support, or tow a load or objects used on board NOAA Small Boats. Additional information can be found at www.sbp.noaa.gov.

2. National Oceanic and Atmospheric Administration, Federal Agencies Program (FAP) and OSHA References. All small boats having rigging on board should take into consideration the guidance within this document, except as indicated within with in a manufacturer's instructions or references below.

(a) NOAA Administrative Order 209-1
(b) SBSPM Section 17
(c) 29 CFR 1910 Occupational Safety & Health Standards
(d) 29 CFR 1915 Safety & Health for Shipyard Employment
(e) 29 CFR 1918 Safety & Health for Longshoring
(f) 29 CFR 1919 Subpart E, Tests and Proof loads
(g) 29 CFR 1926 Safety & Health for Construction

.02 Inspection and use.

a. Rigging equipment shall be initially inspected and the load capacity marked by the manufacturer. If the gear is manufactured in house proof testing shall be conducted to the tables listed below and documented.

Article of gear	Proof load
Chain, ring, hook, shackle or swivel	100 Percent in excess of the safe working load.
Single sheave block	300 Percent in excess of the safe working load.
Multiple sheave block	100 Percent in excess of the safe working load.
Pitched chains used with hand-operated blocks and rings, hooks, shackles or swivels permanently attached thereto.	50 Percent in excess of the safe working load.
Hand-operated blocks used with pitched chains and rings, hooks, shackles or swivels permanently attached thereto.	50 Percent in excess of the safe working load.

b. Rigging should be subsequently tested in accordance with Section 17, Weight Lifting Equipment Certification and Maintenance, of this manual, or shall be in accordance with recommendations of the rigging manufacturer and the equipment manufacturer.

c. Rigging equipment shall not be loaded in excess of its recommended safe working load (SWL).

d. All purchased and fabricated rigging equipment must meet applicable OSHA standards of having a safety factor rating of 5:1.

e. Defective rigging shall be removed from service.

f. Rigging equipment, when not in use, shall be removed from the immediate work area and properly stored and maintained in a safe condition.

g. All eye splices shall be made as per the manufacture's guidance and instructions. Rope thimbles of proper size shall be fitted in the eye, except that in sling eyes.

h. Hooks, shackles, rings, pad eyes, and other fittings that show excessive wear or which have been bent, twisted, or otherwise damaged shall be removed.

i. Custom or experimentally designed grabs, hooks, clamps, or other lifting devices, and similar materials shall be marked to indicate the safe working loads and proof-tested, before use, to 150% of the determined rated load.

.03 Wire Rope.

a. Wire ropes shall be visually inspected for obvious deficiencies or defects prior to use.

b. Replacement of the wire rope is required if one or more of the following conditions exist:

1. Where the rope diameter has been reduced below allowable limits:

Nominal Rope Dia.	Max Allowable Dia. Reduction
5/16" and smaller	1/64"
3/8" to 1/2"	1/32"
9/16" to 3/4"	3/64"
7/8" to 1-1/8"	1/16"
1-1/4" to 1-1/2"	3/32"

2. Six broken wires in one rope lay length or three wires in one strand lay length of weight handling system or general purpose wire.

3. Three broken wires in one rope lay length for all standing rigging wire.

4. One broken wire within one rope laid length of any end fitting.

5. Wear of 1/3 the original diameter of outside individual wires.

6. Evidence of large areas of pitting due to corrosion.

7. Evidence of heat damage on an area of the wire where the load is carried. Passing a rope over a frozen or non-turning sheave or contact with structural members of the equipment can generate heat.

8. Kinking, crushing, shock loading or any other damage resulting in deterioration of the rope structure.

9. Evidence of internal corrosion, broken wires on the underside of strands, excessive nicks or core failure.

10. The rope construction has been distorted by kinking, crunching, bird-caging or other distortion damage.

c. Wire rope shall not be secured by knots.

d. Eyes in wire rope bridles and slings shall not be formed by wire rope clips or knots. Hand splices or swedged eyes may be as per the manufacturer's guidance and instructions.

e. Wire rope clips shall not be used for splicing, connecting, or end for ending rope.

.04 Chain.

a. Only alloyed chain shall be used in rigging. Alloy is metal chain made by combining two or more metallic elements to give greater strength and depending on the grade of alloy is resistance to corrosion.

b. Chain shall be inspected before initial use, prior to each time of use.

c. When used with alloy steel chains, hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other attachments shall have a rated capacity at least equal to that of the chain.

d. Shop hooks and links, makeshift fasteners formed from bolts and rods shall not be used.

e. Chain shall be discarded if:

1. Cracks or breaks.

2. Excessive wear, nicks, or gouges. Minimum thickness of chain link shall not be less than 87% of the original thickness at any body of a link.

3. Stretched chain links or components.

4. Bent, twisted, or deformed chain links or components.

5. Evidence of heat damage.

6. Excessive pitting or corrosion.

7. Lack of ability of chain or components to hinge freely.

8. Weld spatter.

9. Other conditions, including visible damage, that cause doubt as to the chains continued use.

.05 Natural and Synthetic Rope.

a. Fiber rope shall not be used if it is frozen, subjected to acids, or excessive heat.

b. Fiber rope shall be protected from abrasion by padding with chafing gear.

c. All splices and eye splices in ropes and slings shall be made strictly in accordance with fiber rope manufacturer's recommendations.

d. Knots shall not be used in lieu of splices. Knots in fiber ropes may reduce the safe load rating by as much as 50% of the original rating.

.06 Slings.

a. Slings and their fittings and fastenings, shall be inspected before operations and as necessary during use.

b. Welded alloy steel chain slings shall have affixed durable permanent identification stating size, grade, rated capacity, and sling manufacturer.

c. Wire rope slings shall have affixed a durable permanent identification tag stating the diameter, rated load, lifting capacity in vertical, choker, basket configuration, and date placed in service.

d. Each synthetic web sling shall be marked or coded by the manufacturer and show:

1. Name or trademark of the manufacturer,

2. Rated capacities for the type of hitch, and

3. Type of material.

.07 Rigging Hardware.

a. Drums, sheaves, and pulleys shall be smooth and free of surface defects that may damage rigging.

1. In no case will the safe diameters of drums, blocks, sheaves, or pulleys be reduced in replacement of such items unless compensating changes are made in terms of the rigging used and the safe loading limits.

2. Drums, sheaves, or pulleys having eccentric bores, cracked hubs, spokes, or flanges shall be removed from service.

3. Connections, fittings, fastenings, and attachments used with rigging shall be of good quality, of proper size and strength, and shall be installed in accordance with recommendations of the manufacturer.

b. Shackles must meet 29 CFR 1915.113(a).

1. Only marked shackles (marked by manufacturer with name or trademark of manufacturer, rated load and size) shall be used. Shackles shall be maintained by the user so as to be legible throughout the life of the shackle.

2. Each new shackle body should be marked by manufacturer to show name or trademark of manufacturer and grade, material type or load rating and have a safety factor of 5:1.

3. Only load rated marked shackles shall be used.

4. Shackles used in rigging should either be bow shackles that can be “moused or plastic (zip) tied” to secure the pin, or pin is secured by a cotter pin.

5. Shackles shall be discarded if:

(a) Shackles shall not be eccentrically loaded.

(b) Any parts worn more than 10% of original dimensions.

(c) Bent, twisted, distorted, stretched, elongated, cracked, or broken load bearing components.

(d) Excessive pitting or corrosion, nicks or gouges.

(e) Indication of heat damage.

(f) Missing or illegible manufacture's name or trademark or rated load identification.

(g) Body spread.

(h) Makeshift or sub standard pins not supplied by original manufacturer.

(i) Any field modification is evident.

c. Hooks must meet 29 CFR 1915.113(b).

1. The manufacturer's recommendations shall be followed in determining the safe working loads of the various sizes and types of specific and identifiable hooks. Any hook for which the manufacturer's recommendations are not available shall be tested to twice the intended safe working load and marked before it is put into use. Record shall be maintained with the dates and results of such tests.

2. Hooks shall be discarded if:

(a) Missing or illegible rated load marking or stamps.

(b) Excessive heat exposure, pitting and corrosion.

(c) Modification from welding, drilling, grinding, or other alterations which reduces the hooks ability to hold its SWL.

(d) Cracks, nicks, or gouges of 5% of the original thickness.

(e) Wear exceeding 10% (or as recommended by the manufacturer) of the original dimension of a hook or at the load pin.

(f) Deformation, bend, twist, or the increase of the opening not to exceed 5% of a hook.

(g) Inoperative locks and latches.

d. Drums.

1. Drums shall have sufficient rope capacity with recommended rope size and reeving to perform all hoisting and lowering functions in accordance with the manufacturer instructions.

2. At all times at least three full wraps (not layers) of rope shall remain on the drum. Natural, synthetic or heavily lubricated ropes may require more wraps.

3. The drum end of the rope shall be anchored to the drum with an arrangement approved by the manufacturer.

4. Grooved drums shall have the correct groove pitch and depth of groove for the diameter of the rope.

5. The flanges on grooved drums shall project beyond the last layer of rope a distance of either 2 in (5 cm) or twice the diameter of the rope, whichever is greater.

6. The flanges on ungrooved drums shall project beyond the last layer of rope a distance of either 2-1/2 in (6.3 cm) or twice the diameter of the rope, whichever is greater.

e. Sheaves.

1. Sheaves shall be compatible with the size of rope used, as specified by the manufacturer.

2. Sheaves shall be inspected to ensure they are of correct size, properly aligned, and in good condition.

3. When rope is in sheave, the sheave shall be equipped with keeper to prevent rope from riding or jumping.

f. Eye bolts.

1. Eye Bolts shall not be loaded at an angle.

2. Eye Bolts shall only be loaded in the plane of the eye and shall not be loaded at angles of less than 45° to the horizontal.

3. Discard if wear exceeding 10% of its the original dimension.

4. Always apply Eye Bolt loads in the plane of the eye.

5. Seat Shoulder Eye Bolts firmly against material part.

6. Do not exceed safe working load of rated capacity.

7. Fit all Eye Bolts firmly and tightly in the hole and check them.
8. Do not paint or coat Eye Bolts. (Inspection is difficult).
9. Engage full thread to obtain capacity rating.
10. Add one half turn to align plane of Eye Bolt.

SECTION 19. PROCEDURES OF RISK ANALYSIS AND MANAGEMENT

This guidance is provided and intended to assist field personnel in developing Annual Risk Management plans by detailing the philosophy and discrete steps necessary to conduct a self-evaluation of inherent risks pertaining to small boat operations.

RISK MANAGEMENT

.01 Principles of Risk Management.

a. Accept risk when benefits outweigh costs. Risk is inherent in boat operations. Risk is also related to gain; normally, greater potential gain requires greater risk. The goal of operational risk management (ORM) is not to eliminate risk, but to manage it so that missions can be fulfilled with the minimum amount of exposure to potential harm or loss.

b. Accept no unnecessary risk. Only take risks which are necessary to accomplish a mission. Taking unnecessary risks not related to successful mission completion is equivalent to gambling. Gambling is an imprudent activity that does not belong in ORM.

c. Anticipate and manage risk by planning. Risks are more easily controlled when they are identified early.

d. Make risk decisions at the appropriate level. Risk-based decisions are made directly by the person in charge of a specific operation, boat, or activity at a given time. Prudence, experience, judgment, intuition, and situational awareness of the person in charge of a specific operation, boat, or activity at a given time are critical elements in making effective risk-management decisions. When the person in charge of a specific operation, boat, or activity at a given time determines that the risk associated with his decision cannot be controlled at that level, or is not in accordance with the relevant Program Director’s operational intent, the decision must be elevated to the next level of supervision.

.02 Risk Management Process. Risk Management entails a process of identification, ranking, abatement, communication, and supervision of risks and associated controls.

a. Identification.

1. Potential hazards are first identified and must include potential dangers to:

(a) Personnel;
(b) Small boat;
(c) Environment; and
(d) Mission Success.

Identified hazards are later ranked according to the severity and probability of occurrence.

2. Typical Causes. The following are common causes of injury or accident for boats. Causes must be considered in the risk-identification phase in order to develop and implement logical and cost-effective risk-control measures.

(a) Human Systems Failure;
(b) Structural Failure;
(c) Mechanical/Systems Failure;
(d) Collision;
(e) Allision;
(f) Fire;
(g) Inadequate Stability;
(h) Grounding; and
(i) Hazardous Material Reactions;

3. Contributing Factors. The following is a list of contributing program-specific or small boat-specific factors which must be considered when determining risk-hierarchy rankings for identified hazards:

(a) Small boat Design Limits;
(b) Repair Standards;
(c) Stability Tests/Reports;
(d) Emergency Drills;
(e) Safety Systems;
(f) Operator Qualifications;
(g) Night Operations;
(h) Proximity or Probability of Emergency Assistance;
(i) Embarked Personnel;
(j) Staffing Levels;
(k) Management and Funding;
(l) Inspection Suitability;
(m) Material Condition;
(n) Nature of Operations;
(o) Operating Environment; and
(p) Safety Record.

.03 Annual Risk Assessment Templates (Will be available on the web at www.sbp.noaa.gov. Interim guidance is available until templates are complete)

APPENDICES

Appendix A NAO 209-125: NOAA SMALL BOAT PROGRAM

SECTION 1. PURPOSE.

.01 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.

.02 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.

.01 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.omao.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.

.02 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.

.03 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.

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

.05 NOAA small boats shall be maintained in a seaworthy condition and be fit for the mission intended.

.06 Appropriate safety training and life-saving equipment resources shall be provided to personnel operating or embarked on NOAA small boats.

.07 NOAA small boats shall be used only for official government purposes.

.08 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.

.09 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.

.01 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.

.02 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.

.01 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.

.02 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.

.03 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.

.01 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.

.02 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.

.03 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.

.04 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.

.05 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.

.06 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.

.07 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.

.08 Small Boat Operating Manual (SBOM). A compilation of instructions, procedures, and guidelines specific to each small boat, its mission, and its operating area.

.09 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.

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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

Purpose:

The NOAA Small Boat Safety Board (SBSB) shall:

1. Develop, maintain, review, and approve NAO 209-125 and the Manual;
2. Develop, evaluate, and maintain a set of basic qualifications standards for small boat operators and crew;
3. Approve basic small boat training requirements and approve all policies, standards, and operating procedures developed under the Manual (including all SSBPs and SBOMs);
4. Establish criteria and tools for small boat operational risk assessments;
5. Identify and promote "best in class" safety practices for boat operations;
6. Establish minimum criteria for SSBPs and SBOMs;
7. Determine reciprocity or substitution of small boat operator and crew qualifications with similar qualifications of other agencies, organizations, or training programs;
8. Serve as a policy and implementation advisor to the Small Boat Program;
9. Evaluate data and trends gathered from operational, inspection, and incident reporting statistics and initiate appropriate actions;
10. Address other boating-related matters as requested by NOAA management and/or as deemed appropriate by the SBSB;
11. Inform NOAA management of significant small boat management issues;
12. Maintain a compilation of small boat inventory and compliance records;
13. Provide subject matter expertise for issues relating to the small boat community;
14. Provide guidance to the Director, OMAO, regarding Requests for Waivers to the provisions of this Order and of the Manual;
15. Respond to questions and concerns raised by the small boat community; and
16. Review boating incident/accident reports and initiate appropriate actions.

Organization of the Board:

The SBSB consists of the following members or Line Office representatives:

Small Boat Program Manager (SBPM) – SBSB Coordinator,
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 Office (OMAO),
NOAA Safety and Environmental Compliance Office (SECO), and
NOAA Law Enforcement.

Line Offices may designate one additional board member to the SBSB, however their votes will be combined into one for decision-making purposes.

The position of Chairperson may alternate, as appointed by the Director, OMAO.

Appointment and Recommendation of Board Members

Board members shall be appointed by the appropriate NOAA Assistant Administrator or Program Director. 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. The Small Boat Safety Board or NOAA Small Boat Program Manager may provide recommendations to the Line Offices.

Term of Voting Members

There is no term limit for participation in the SBSB. Should a Line or Staff Office wish to change its representatives on the Board, the recommendation and appointment procedures cited above would be applied.

Subject-Matter Experts and Working Groups

The SBSB shall consult with appropriate subject-matter experts, or may 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 Members.

Roles and Responsibilities

Final Authority

The SBSB is the final technical authority within NOAA on matters relating to interpretation and application of NOAA Administrative Order 217-103 "Management of Small Boats," the superseding NAO 209-125, the NOAA Small Boat Standards and Procedures Manual and all small-boat matters raised to the SBSB for an opinion or interpretation. Specific subject matter experts may be called for consultation and opinion at the Committee's discretion for any particular policy matter including, but not limited to:

- Operational procedures and policy,
- Small boat operator training and certification,
- Small boat inspection,
- Small boat outfitting and systems configuration.

Requests for interpretation (RFI) shall be submitted via the Line Office Board Members to the Chairperson for action.

Meetings

Meetings of the Members in Person

Meetings of the SBSB will be held at least biennially and when additional meetings are required. The NOAA Small Boat Program Manager will coordinate the agenda and arrangements for the Board meetings. Meeting agendas will be distributed to the Board Members and will be

distributed as well to interested parties on request. The SBSB meetings will have official minutes and actions recorded. Meeting records will be maintained in the office of the Small Boat Program and distributed to NOAA management and Small Boat community.

Virtual Meetings

To ensure flexibility and timely response to matters where time is of the essence, or when in-person meetings are not warranted or feasible, the Chairperson may call a virtual meeting of the SBSB. A virtual meeting may utilize individual phone calls, conference phone calls, electronic forums, electronic messaging, video conferencing, or email to distribute matters before the Committee and collect the opinions of Board Members on such matters. Notice, agenda and records will be maintained in the same way as meetings in person.

Quorum

Request for Interpretation, Opinion or Review

When the SBSB receives a Request for Interpretation (RFI), a Request for Opinion (RFO), or a Request for Review (RFR) the Board shall act as a decision-making body. Decisions will be accomplished by consensus (i.e., no one votes “thumbs down” on an issue). 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 shall be referred directly to the Chairperson for a decision.

When the SBSB is tasked with the review of an Annual Risk Assessment, Supplemental Small Boat Policy, Small Boat Operations Manual or small boat operations incident, the Board shall act as a quality-assurance body.

The SBSB is the final technical authority within NOAA on matters pertaining to small boat safety policy, standards, and procedures.

Appendix C PERSONAL FLOTATION DEVICES POLICY

CARRIAGE AND USE OF PERSONAL FLOTATION DEVICES AND IMMERSION SUITS ABOARD NOAA SMALL BOATS

SECTION A. – PURPOSE.

This document establishes NOAA policy for all NOAA small boats regarding the carriage and use of personal flotation devices (PFD) and immersion suits. The purpose of this policy is to reduce the risk of drowning and to increase survivability. These criteria were developed after a review of the 2003 NOAA personal flotation device policy. Cold-water thermal-protection requirements are addressed in more detail and are structured to exceed minimum risk controls provided for by the US Code of Federal Regulations (CFR).

SECTION B. – RESPONSIBILITY

This Policy is promulgated by OMAO and shall be maintained and reviewed by the Small Boat Safety Board as technology and safety standards and procedures improve.

NOAA Small Boat Operators who fall under the scope of NOAA Administrative Order (NAO) 209-125 or a superseding NAO shall be responsible to:

.01 meet or exceed the requirements of this Personal Flotation Device Policy;

.02 assure that all persons on board have access to and are trained in the use of personal flotation devices; and

.03 employ risk-management processes to identify the need to carry additional flotation devices for their respective small boat operations.

SECTION C. – PFD and IMMERSION SUIT CARRIAGE REQUIREMENTS.

.01 Carriage Requirements for ALL NOAA Small Boats and all persons, as described under the scope of NOAA Administrative Order (NAO) 209-125 or a superseding NAO.

a. **PERSONAL USE PFDs** – All persons shall wear an approved Personal Use PFD (detail in Section D of this policy) at all times and in all waters (except as stated in Section D.05).

b. **COLD WATER PROTECTION** - If the operating waters qualify as "cold waters" as defined below, or there is an increased risk of hypothermia, then:

1. An approved PFD of a type that offers both thermal protection and flotation shall be readily available for all personnel working on weather decks if not already used as a Personal Use PFD. This includes anti-exposure suits and float coats; and

2. At least one Immersion Suit for each person aboard shall be carried on Class II, III and SRV NOAA small boats.

(a) If immersion suits are intended to be worn by passengers or untrained NOAA employees in an emergency, adequate training and familiarization drills which include the actual donning of an immersion suit shall be carried out prior to departing the dock.

(b) If NOAA-approved survival craft of sufficient capacity are onboard, the requirement for immersion suits for passengers may be waived.

c. **TYPE I PFDs** - Class II, III and SRV NOAA boats shall carry at least one Type I PFD, in addition to Personal Use PFDs, for every person aboard at all times and in all waters. On Class II boats only, immersion suits may substitute for type I PFDs.

d. **RISK MANAGEMENT** - Risk-management processes must be employed to identify if there is a need for additional PFD carriage and usage requirements for all small boat operations.

.02 Carriage requirements for Law Enforcement Vessels.

In lieu of C.01, NOAA Small Boats, when performing Law Enforcement missions, shall adhere to the National Enforcement Operations Manual (NEOM), Procedure 5.6 "Vessel Operations" PFD Policy.

.03 Other Carriage Requirements

Class I, II, III, and SRV boats, regardless of their operating area or water temperature, shall carry one or more throwable lifesaving devices such as Type IV buoyant cushions and/or Ring Life Buoys.

.04 Type I PFD and Immersion Suit Requirements carried onboard NOAA small boats should meet all the minimum requirements described in D.01.d-g

.05 Type I PFD and Immersion Suit Stowage

PFDs and immersion suits shall:

a. be readily accessible (meaning available for donning in a reasonable amount of time in an emergency);

b. be clearly visible. When stowed in a locker, the locker shall be clearly labeled with the number, type, and size of device within (e.g., 5 Immersion Suits – 3L / 2M);

c. not be stowed with work vests or other Personal Use PFDs; and

d. shall not be stowed in plastic bags, in locked and closed compartments, or have other gear stowed on top of them.

SECTION D. – PERSONAL USE PFD REQUIREMENTS.

.01 Personal Use PFDs. Personal Use PFDs, as defined by Section E.13, shall be worn by all personnel at all times while a NOAA small boat is operating except in the specific situations and circumstances detailed in Section D.05 below. They shall be:

a. capable of providing inherent buoyancy, or inflated buoyancy by manual inflation, and by manual or automatic activation of a compressed gas cylinder, or a combination of inherent and inflatable buoyancy as follows:

1. an inherently buoyant type PFDs shall be USCG and/or SOLAS approved or a NOAA approved variant;

2. an inflatable type PFD shall be USCG and/or SOLAS, or a NOAA approved variant; or

3. a hybrid as approved by NOAA.

b. certified as USCG and/or SOLAS approved Type V and/or Type III, or a NOAA approved variant;

c. Personal Use PFDs that are personal property of individuals onboard the small boat shall meet the requirements of this section and be permanently marked with the name of the person to which the PFD belongs;

d. designed and properly sized for the wearer and for operational and environmental conditions;

e. used and maintained in a serviceable condition in accordance with the manufacturer or USCG instructions;

f. equipped with USCG approved personal marker light and whistle that are mounted to resist snagging; and

g. permanently marked with at least one of the following: the vessel'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.).

.02 Personal Use PFD Assignment. Any person who engages in operations on a NOAA small boat, and who is not in possession of a personally owned PFD equivalent to the USCG approved Personal Use PFDs above, shall be provided a Personal Use PFD for use while onboard.

.03 Fanny Pack PFD. Although their routine usage is discouraged, inflatable PFDs that require removal from a storage pouch, donning and inflation (commonly referred to as a "fanny pack" PFD) may be used on Class III and SRVs only when an increased risk of being rendered unconscious in the water or an increased risk of capsizing does not exist. The intent is to allow fanny pack PFDs only during very low-risk operations. This will be considered during the pre-departure risk assessment.

.04 Outreach Events. Passengers and guests will be required to wear a USCG approved, properly fitted flotation device in accordance with this policy.

.05 Exceptions to the Wearing of Personal Use PFDs.

a. Diving – Personal Use PFDs are not required to be worn by divers when at least 70 Newton (15.5 pounds) of inherent buoyancy is provided when dressed in either (or a combination of) a neoprene wet suit, a dry suit, or a buoyancy compensator.

b. Enclosed Spaces on Larger Small Boats – Personal Use PFDs are not required to be worn by persons aboard Class II or Class III small boats and Small Research Vessels when an increased risk of capsizing or an increased risk of being rendered unconscious in the water does not exist and the person is inside an enclosed space.

c. Sufficient Bulwarks and Rails – Personal Use PFDs are not required to be worn by persons on deck when all of the following conditions are met:

1. the OIC grants permission not to wear a PFD on deck; and

2. the person will not engage in the small boat's mission in a scientific or crew capacity; and

3. the person will not be in close proximity to areas where operations are being conducted onboard or over the side of the small boat; and

4. the small boat deck is configured with exterior rails or bulwarks that are at least one meter (39.5 inches) high; and

5. in the case of rails, the courses of rails (or equivalents, such as chains or wire) are installed such that no open vertical space exists that is more than 15 inches. The opening below the lowest course to the deck must not be more than 12 inches.

SECTION E. – DEFINITIONS.

.01 Cold Water. Water where the monthly mean low water temperature is normally 15° C (59° F) or colder.

.02 Increased Risk of Hypothermia. Hypothermia is defined as a body core temperature less than 35° C (95° F). A risk of hypothermia exists for persons immersed in cold water as defined in Section C.01. However, an increased risk of hypothermia also exists when immersed in water at higher temperatures (above cold water) for longer periods of time because water transfers heat away from the human body 25 times faster than air does. An increased risk of hypothermia also exists in wet and/or wind chill air conditions.

.03 Increased Risk of Being Rendered Unconscious. An increased risk of being rendered unconscious can be due to many factors, which may include but are not limited to:

a. handling gear onboard or over the side of a small boat; or

b. assisting with the launch or recovery of small boats; or

c. heavy seas or a capsizing events.

.04 Increased Risk of Capsizing and/or Falling Overboard. An increased risk of capsizing and/or falling overboard can be attributed to many factors, which may include but are not limited to:

a. navigating in the vicinity of a beach, sand bar, breakwater, shoal, reef, sea mount, tide rip, or other oceanographic or physical feature where waves are regularly breaking or have created surf; or

b. towing, trawling, or lifting; or

c. heavy weather or icing conditions; or

d. operating in rivers during high current or flood stages; or

e. crossing river bars or shallow inlets; or

f. ship and boat wakes.

.05 Inherently Buoyant. A device which relies on buoyant material for flotation. Buoyant materials used in Personal Flotation Devices include kapok (a natural silky fiber), flexible plastic foams (such as Polyvinyl Chloride (PVC), Polyethylene (PE), and Neoprene), and rigid foams used in Ring Life Buoys (often polyurethane). An inherently buoyant PFD does not rely on any chemical mechanism or operator action to provide buoyancy.

.06 Small Boat Operator (Operator or Coxswain). As used in this Policy, a Small Boat Operator is any person who is in charge of operating a NOAA Small boat as defined in NAO 217-103 or a superseding NAO. For detailed description see the NOAA Small Boat Standards and Procedures Manual.

.07 Operator-in-Charge (OIC). In any case where more than one qualified Small Boat Operator is aboard a small boat, one single individual shall be designated Operator-In-Charge. For detailed description see the NOAA Small Boat Standards and Procedures Manual.

.08 Passenger. As used in this Policy, a passenger is defined as an individual on board who is not considered to be a member of the crew, who is not engaged in the mission of the vessel, who has not contributed consideration for carriage, and who is not compensated for onboard services. This is intended to represent outreach groups, VIPs, and members of the media.

.09 PFD. An acronym for Personal Flotation Device. Personal Flotation Device is a generic term that includes items such as work vests, marine buoyant devices intended to be worn, life preservers, life jackets, hybrid PFDs, and inflatable life jackets. Approved PFDs must contain a label stating USCG approval number and type. PFDs are defined by type in 46 CFR §160.077-27.

.10 Inflatable PFD. A PFD designed to become buoyant either manually, automatically, or both, by inflation of a sealed chamber. Inflatable PFDs are not inherently buoyant; however they pose a lower risk of personnel becoming entrapped in an enclosed compartment during a flooding or capsizing emergency because of their reduced bulk.

.11 Immersion Suit. 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 shall be USCG and/or SOLAS approved in accordance with 46 CFR §160.171.

.12 Anti-exposure Suit. 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 operations.

.13 Personal Use PFDs. Personal Use PFDs are PFDs that are intended to be regularly worn on a continuous basis onboard a small boat such as work vests, float coats/coveralls, anti-exposure suits, fanny pack, dry suit-style, and inflatable PFDs. All Personal Use PFDs must be of a USCG and/or SOLAS approved or a NOAA approved variant.

SECTION F. – WAIVERS.

Requests for waivers or for clarifications to this PFD Policy shall be made to the Small Boat Safety Board through the Small Boat Program Manager, who will address each issue on a case by case basis. Director of OMAO is the final authority for all decisions. For more detailed description see the NOAA Small Boat Standards and Procedures Manual.

Appendix D MINIMUM SMALL BOAT SAFETY EQUIPMENT

EQUIPMENT	MOTORBOAT CLASSIFICATION				
	CLASS A	CLASS I	CLASS II	CLASS III	SRV
Anchor[1]	Optional, depends on nature of operations	Optional, depends on nature of operations	One	One, as required by design calculations	
Portable Fire Extinguishers[2]	1 Type B-I (when boat has enclosed compartment)		2 Type B-I or 1 Type B-II. A Fixed System equals one B-I	As required by application of appropriate regulation	
Backfire Flame Arrester and Drip Pan	One approved device on each carburetor of all installed gasoline engines, not applicable to outboard engines or diesel engines				
Navigation Lights	As described in Navigation Rules, COMDTINST M16672.2D[3]				
Oars/Paddles	One Set	One Set	None	None	None
Magnetic Compass	None	One handheld bearing compass	One mounted	One, adjusted with current deviation card posted[4]	
Ventilation	Per applicable regulations for occupied spaces and tanks [5]				
Personal Flotation Devices	See NOAA PFD Policy (Appendix C of this Manual)				
Ring Life Buoys or Buoyant Cushions	None	One ring life buoy or buoyant cushion.		As required by application of appropriate regulation.	
Lifeboat, Raft, or Buoyant Apparatus	None	None	None	As required by application of appropriate regulation.	
Emergency Tiller or Steering System	None	None	As required by application of appropriate regulation.		
First Aid Kit[6]	One	One	One	One	One
Whistle/Horn	Some means of making an efficient sound signal audible for ½ mile for at least 4 to 6 seconds.			As required by application of appropriate regulation.	
Bell	None	None	None	One, ≥ 200mm Diameter [7]	One, ≥ 300mm Diameter
Visual Distress Signals	One electric distress light or 3 combination day/night red flares [8]	One orange distress flag, or one electric distress light, or three hand-held or floating orange smoke signals, and One electric distress light, or three combination (day/night) red flares: handheld, meteor, or parachute type		As required by application of appropriate regulation.	
Navigation Rules	None			One copy of current edition	
Nautical Charts	None	One waterproof chart or chartlet covering the operations area		One of each chart covering the vessel's normal operations area[9]	
Oil Placard	None		One	One	
Garbage Placard	None		One	One	
Waste Management Plan	None			All boats that have both a galley and berthing spaces	

Footnotes for Small Boat Safety Equipment Table:

NOTE: This Table is adapted from USCG equipment-carriage requirements and is intended to provide minimum acceptable levels of outfitting for research small boats and small research vessels. Exemptions to these requirements may be granted by the Director of OMAO on a case-by-case basis following examination of an operational risk assessment.

[1] The book Chapman Piloting and Seamanship is a good source of information for determining appropriate anchor and rode size and type.

[2] B-I type approved hand portable extinguishers contain: 1.25 to 2.33 gallons Foam, 4 to 15 pounds Carbon Dioxide, or 2 to 10 pounds Dry Chemical; B-II type approved hand portable extinguishers contain: 2.5 gallons Foam, 15 pounds Carbon Dioxide, or 10 to 20 pound Dry Chemical. All portable extinguishers must be mounted to be USCG approved.

[3] Direct questions regarding application of the Rules to OMAO Fleet Inspection Office.

[4] Recommend annually, required no more than every three years unless there have been equipment/wiring changes in the vicinity of the compass in which case it needs to be done following the completion of the work.

[5] In addition to required ventilation systems, boats carrying a gasoline appliance in a confined space shall be outfitted with a powered bilge-exhaust blower that has an arc resistant motor and is wired independently of the ignition starting system.

[6] First-aid kit contents should be adequate for type of operation and skill level of personnel expected to administer first aid.

[7] A bell is not required for a vessel principally operated in waters governed by the International Navigation Rules. However, if a bell is not carried, the vessel shall be capable of making some other efficient sound signal at intervals of not more than 2 minutes. See International Rule 35.

[8] When operating between sunset and sunrise.

[9] CORRECTED THROUGH THE MOST CURRENT NOTICE TO MARINERS

Appendix E MINIMUM SMALL BOAT COMMUNICATION AND NAVIGATION EQUIPMENT

	Class A	Class I	Class II	Class III	SRV
VHF	1[1]	1[1]	2	2	2
GPS	1*	1*	1	1	2
EPIRB	1*	1*	1	1	1
RADAR	0	0	0	1	1
Depth Sounder	0	0	1	1	1
Cell Phone/ Sat Phone [2]	1*	1*	1	1	1

It is NOAA's intention that all NOAA small boats will have a reliable method of direct verbal communication with a shore facility or support vessel at all times.

All minimum carriage decisions should be based on a risk assessment that considers the mission and operational area.

Footnotes:

*. Unless working in protected waters or with EPIRB equipped support vessel.

1. All Vessels operating in areas without VHF or Cell phone coverage must have a reliable method of verbal communications with shore support.

2. Satellite phone is required when out of VHF or Cell phone range.

Class II, III and SRV- (1) VHF must have at least one fixed VHF radio with MMSI registration and integrated GPS.

Appendix F SMALL BOAT STABILITY STANDARD

1. SCOPE:

Vessel stability is a critical element for safe operation of NOAA's vessels. Obsolete or absent stability guidance is a major factor with the potential to increase stability-related risks. All vessels experience weight growth over time or when vessel modifications are made. Undocumented changes are especially dangerous since the vessel crew may not be aware that the original guidance no longer reflects the vessel's current operational limitations. Completing a stability evaluation will assure that the vessel's stability safely meets the operational mission requirements. VOCs should contact the SBP Coordinator for assistance and support in contacting a qualified person to execute the test.

1.1 To determine if modifications or alterations to existing vessels require further stability testing the VOC should contact the SBP Coordinator to determine what actions are to be taken. Examples of criteria that would necessitate a review are:

- Significant weight deletion or addition.
- Watertight bulkhead alterations.
- Tank boundary changes.
- Reduction of freeing port configuration.
- Significant lifting gear additions or changes.
- Windage changes.
- Bilge keel area changes.
- Carrying additional personnel (exceeding as-built maximum capacity).
- Repowering that involves significant weight change, increase in horsepower, or modifications to the hull structure.

If there is a question regarding the significance of alterations and/or changes, contact the SBP Coordinator for guidance.

1.2 Further definition of the required stability standards is under review and will be published in subsequent manual revisions.

Appendix G SAMPLES DOCUMENTS AND FORMS

SMALL BOAT OPERATIONS MANUAL - TABLE OF CONTENTS TEMPLATE

Operations Manual
For
"Small Boat Name, NOAA Number"

Table of Contents

SECTION 3. OPERATIONAL PROCEDURES AND LIMITATIONS

.01 Annual Risk Assessment

.02 General Policies and Procedures.

.03 Material Condition.

.04 Weather and Sea-State Limitations and Monitoring.

.05 Stability and Load Limitations.

.06 Distance from Shore Restrictions.

.07 Night and Overnight Operations.

.08 Position Reporting Requirements.

.09 Check-Off Lists: Departure and Arrival.

.10 Float Plan/Trip Report.

.11 Embarked Personnel: Crew, Scientists and Passengers.

.12 Diving from Small Boats: NOAA Diving Regulations Apply, Oxygen Kit Required Aboard.

.13 Use of Permanent and Temporary (Science) Installed Equipment.

SECTION 4. REPAIR AND PREVENTATIVE MAINTENANCE REQUIREMENTS

.01 ABYC, NFPA and USCG Regulations Apply.

.02 Critical vs. Non-Critical Repairs.

.03 PMS Scheduling (Daily, Weekly, Monthly, Quarterly, Semi-annually, Annually and Based on Hours of Operation).

.04 Maintenance Logs (Hardcopy and Database).

.05 Monitoring Systems: LO Analysis, Vibration, Gages, Alarms.

.06 Crew and Shore/Depot Level Repair and Maintenance.

SECTION 5. SAFETY SYSTEMS

.01 Required Safety/Firefighting/Life Saving Equipment, Table 1.

.02 Testing/Examination of Safety/Firefighting/Life Saving Equipment.

.03 Required Navigation and Communication Equipment, Table 2.

SECTION 6. EMERGENCY PROCEDURES

.01 Proximity and Probability of Emergency Assistance.

.02 Drills: Fire, Flooding, Collision, Man Overboard, Oil Spill, etc.

.03 Emergency Check-Off Lists (46CFR 185.25-5).

SECTION 7. OPERATOR QUALIFICATIONS AND STAFFING LEVELS

.01 Certification and License Requirements as Applicable to Small Boat Class.

.02 Training: Seamanship, CPR and First Aid.

.03 Vessel Operations Coordinator.

.04 Operator and Crew Staffing Levels.

SECTION 8. INSPECTION REQUIREMENTS

.01 Required OMAO Fleet Inspection for Class III and Larger Small Boats.

.02 Annual Small Boat Evaluation (ASBE) for Class A, I and II.

.03 Small Boat Examination (SBEX) for Class A, I and II.

SECTION 9. CONFIGURATION CONTROL

.01 Boat Alterations, Submittal Procedures, and Record Keeping.

.02 Marine Engineering Consultation.

.03 Weight and Moment Control.

SECTION 10. DOCUMENTATION, REPORTING AND RECORD KEEPING

.01 Drawing and Diagrams showing:

a. Major Systems.

b. Location of Emergency and Safety Gear (Damage Control).

c. General Arrangements Including Galley, Messing and Berthing.

.02 Pollution Control and Discharge Plaque.

.03 List of Drills and Frequencies (Section 9.02)

.04 Stability Information.

.05 MSDS.

.06 OEM Technical Manuals for Installed Equipments.

.07 NOAA Small Boat Program Web Site: http//www.sbp.noaa.gov/.

.08 Spares Inventory

.09 Accident Reporting and Investigation.

.10 Boat Alteration Records.

.11 Operator Certifications, Licensing, and Training Records.

.12 Inspection Records.

SECTION 11. REFERENCES

46CFR, ABYC and USCG Regulations, Annual Risk Assessment, Supplemental Small Boat Policy, NOAA Small Boat Standards and Procedures Manual, and NOAA Administrative Orders as Applicable.

NOAA BOAT OPERATOR QUALIFICATIONS LETTER.
Note: Clean, modifiable versions available at http://www.sbp.noaa.gov/

NOAA Boat Operator Qualifications Letter

Operator Name

Facility/Laboratory:

Phone: Email:

Operator Training/Certificates and Expiration Date if Applicable:

NOAA Component Course Date: _____
CPR Certification Expiration Date:_____
First Aid Certification Expiration Date:_____
Other Medical Certificates and Expiration Dates:

The person named above possesses the appropriate certificates/licenses, and has demonstrated the skills necessary to operate or serve on NOAA small boats as following:

Boat Registration/Name	Operations (all or specific)	Approved by (VOC or PD)	Date

PERSONNEL QUALIFICATIONS STANDARDS (PQS) – MINIMUM REQUIREMENTS
Note: Clean, modifiable versions available at http://www.sbp.noaa.gov/

NAME: _____ DATE: _____

Task: (PQS) "Minimum" requirements for Class A and I Boats
Specific standards must be adapted to region and boat

Conditions Performed shore side or underway. Operator must accomplish all tasks without prompting or use of a reference.

Completed	Performance Criteria
_____	1. Describe the boat specifications/characteristics: hull, length, hp, fuel capacity, battery setup, steering, etc.
_____	2. Identify and describe the usage and stowage of the following equipment: fire ext., PFD's, EPIRB, first aid kit, anchor flares, etc.
_____	3. Limitations of the vessel: max. safe speed, economical cruising speed, fuel consumption, range, maximum number of people/load, stability considerations, etc.
_____	4. Pre-departure check: Float Plan, PFD's, fire extinguishers, visual distress signals, searchlight, navigation lights, boat hook, charts, tools, first aid kit, horn, etc.
_____	5. Mechanical checks: (if applicable) oil level, water level, fuel level and system, batteries, generator, etc.
_____	6. Departure: crew briefed on duties, completed pre-departure checklist, engines started, cooling water and electronics checked.
_____	7. Cast Off: area clear, note wind, current, controlled departure.
_____	8. Seamanship: useful knots, use of cleats, line-under-strain safety
_____	9. Anchoring: bottom characteristics, effects of wind/current, scope required, approach, lower anchor, ensure not dragging, etc.
_____	10. Applicable Rules of the Road.

_____ 11. Troubleshooting. Possible cause of engine's failure to start, high engine temperature alarm, etc. Procedure to follow for steering casualty.

_____ 12. Demonstrate proficiency navigating using compass, charts, and GPS

_____ 13. Demonstrate proper operation of the following electronics: GPS plotter, VHF radio and DSC, loud hailer, RADAR if equipped

_____ 14. Boat Handling: notify crew of speed change, increase (smoothly) engine rpm's to planning speed, trim engines and tabs if equipped, demonstrate turns.

_____ 15. Mooring: engines tested in reverse, approach dock slowly at an angle.

_____ 16. Post Cruise Duties: log book entry, close float plan, garbage disposal, necessary boat and trailer cleanup/maintenance.

Evaluator:_____

Vessel Operations Coordinator:_____

Class II PQS checklists:

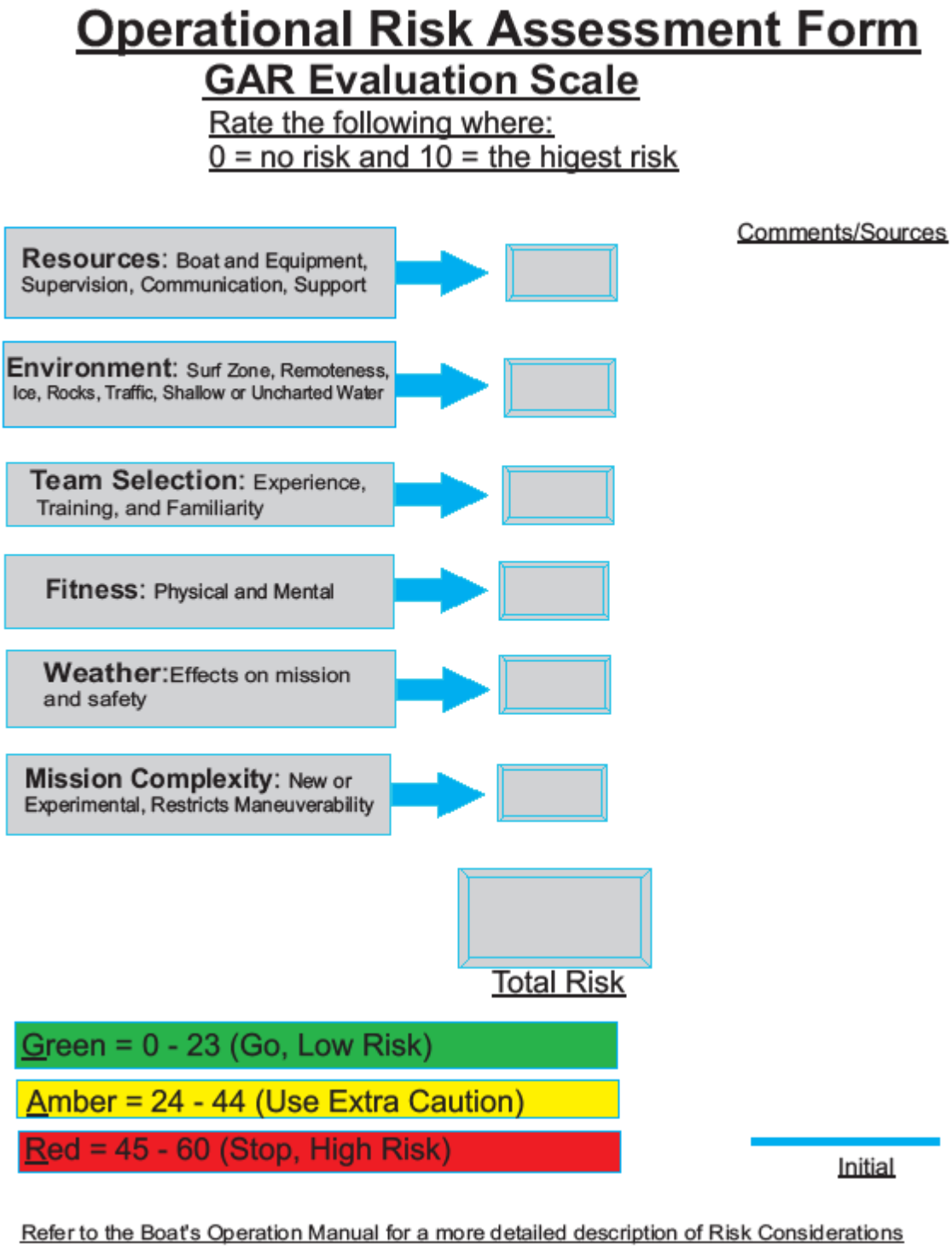
Located on the Small Boat Program website:
http://www.sbp.noaa.gov/

SAFETY ORIENTATION BRIEFING

Vessel : _____
Date : _____
OIC: _____
Topics presented in orientation session:

1. **PFD's**
    a. **PFD policy**
    b. **Location of PFD's**
    c. **Use of immersion suits**
2. **General alarm**
    a. **Muster area**
    b. **Secure work station**
    c. **Bring PFD and immersion suit**
3. **Man overboard**
    a. **Maintain lookout**
    b. **Sound alarm**
    c. **Throw rings & floating gear**
4. **Fire**
    a. **Alarms**
    b. **Muster area**
    c. **Portable extinguishers**
5. **Abandon ship**
    a. **Life raft location and operation**
    b. **EPIRB location and operation**
6. **Personal safety gear**
    a. **PFD – on deck, underway**
    b. **Hard hats – when working with crane**
    c. **Shoes**
7. **Medical situations**
    a. **Inform crew**
    b. **First aid kit location**
8. **Roles and responsibilities**
    a. **Captain and crew**
    b. **Chief scientist**
    c. **Science crew**
9. **Additional information**
    a. **Bunk cards**
    b. **Postings**
    c. **Ask if unsure!**
10. **Verbally confirm**
    d. **All understand the safety briefing**
    e. **All understand the mission**
    f. **All are well rested and fit for the mission**

OPERATIONAL RISK ASSESSMENT FORM (GAR)
(Full size version available on the web site www.sbp.noaa.gov)



NOAA Risk Assessment Considerations

1. RESOURCES: Boat and Equipment, Supervision, Communications, and Support. Is the boat adequate for the mission? Is it properly equipped with operational and safety equipment? Are the boat and equipment functional and up-to-date? Is there adequate oversight and supervision for this kind of boat, mission, and mission equipment? Is there sufficient administrative and practical support (like fuel and food) for the mission? Is a communications plan in place? Is back-up or rescue available?

2. ENVIRONMENT: Is the mission environment inherently hazardous (i.e., a surf zone, ice, rocks, uncharted or shallow water, etc.)? Is it remote or inaccessible to the USCG or EMS? Is it a new environment for this kind of mission, or for the crew? Will boat traffic, debris, or current impact operations?

3. TEAM SELECTION: Experience, Training, and Familiarity. Have the crew and mission personnel performed this kind of operation before with this kind of boat and equipment, and with each other? Have they operated in this environment before? Is the mission or mission equipment new or un-tested? Is everyone properly trained for this mission?

4. FITNESS: Physical and Mental. Is the team well rested and ready to work? Does everyone understand the mission, and are they capable of performing it? For multiple-day missions, are there enough crewmembers to allow adequate rest periods and safe manning? Will weather, stress, or living conditions pose mission, safety, or crew exposure/fatigue problems?

5. WEATHER: Are current and expected weather conditions acceptable? What are the likely affects of the expected weather on the mission and safety? Does it pose a problem to the gear that will be used? Is there a plan to mitigate hazards or mission failure, or safely cancel, if the weather is worse than expected?

6. MISSION COMPLEXITY: Is the mission or mission equipment complicated, difficult, new or experimental? Is it a multi-unit operation or dependent on other agencies? Is it high profile, stressful, or time sensitive? Will mission equipment restrict the boat's maneuverability, affect stability, or pose a hazard to other traffic? Does the operation carry inherent risks (like towing divers or going into the surf)?

(These are only guidelines. Actual considerations under each category should be adapted to meet the operational requirements of each region or line office.)