	AIRCRAFT OPERATIONS CENTER NOAA Office of Marine and Aviation Operations	**CATEGORY** 220
		EFFECTIVE DATE October 1, 2011
	AUTHORIZED BY: CAPT Randall J. TeBeest, NOAA Commanding Officer, Aircraft Operations Center	**REVIEW DATE** September 1, 2012
		RESPONSIBLE Chief, Operations Branch

POLICY 220-1

AIRCRAFT OPERATIONS MANUAL

SECTION 1. PURPOSE.

1.01 The National Oceanic and Atmospheric Administration (NOAA) Aircraft Operations Center (AOC) Aircraft Operations Manual provides guidance to AOC personnel for the execution of their flight duties. It contains information and instructions on the manner in which manned and unmanned AOC flight operations shall be conducted.

1.02 This manual is to be used in conjunction with appropriate Federal, State, and local aviation regulations.

1.03 It is not to be used as a replacement for common sense and sound judgment in daily operations.

SECTION 2. SCOPE.

2.01 Policy 220-1, Aircraft Operations Manual, contains five (5) sub-policies, and is considered an incomplete document unless accompanied by all five. The five sub-policies are:

- Policy 220-1.1, Flight Operations
- Policy 220-1.2, Qualification , Designation and Training
- Policy 220-1.3, Aeromedical
- Policy 220-1.4, Safety
- Policy 220-1.5, Unmanned Aircraft Systems (UAS)

SECTION 3. MISSION OF THE AOC.

3.01 The mission of AOC is to operate NOAA's fleet of manned aircraft and UAS safely and efficiently, to incorporate emerging data acquisition technologies, and to provide specialized professional teams in support of NOAA and the nation.

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		EFFECTIVE DATE February 17, 2012
	AUTHORIZED BY: CAPT Randall J. TeBeest, NOAA Commanding Officer, Aircraft Operations Center	**REVIEW DATE** January 1, 2013
		RESPONSIBLE Chief, Operations Branch

POLICY 220-1-4

AIRCRAFT OPERATIONS CENTER SAFETY

SECTION 1. GENERAL.

1.01 **Contents** - This policy includes the following sections and corresponding page numbers:

1.02 **List of Effective Pages**

Page	Date	Page	Date
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1.03 **Responsibility** - Safety is the inherent responsibility of every Aircraft Operations Center (AOC) employee. Safe operations depend on each member of AOC meeting the requirements of this policy and AOC safety procedures.

SECTION 2. AVIATION MISHAPS, HAZARDS AND HAZARD REPORTS.

2.01 **Aviation Mishap Definition** – An aviation mishap is defined as an unplanned event or series of events, directly involving NOAA aircraft or Unmanned Aircraft Systems (UAS), which results in one or both of the following:

- Damage in the amount of $2,500 or more to NOAA aircraft or a UAS, other aircraft, or property (NOAA or non-NOAA). Property damage includes cost to repair or replace facilities, equipment or material. Damage incurred as a result of salvage efforts is not considered part of the mishap damage cost; however, damage that occurs while the aircraft is awaiting salvage (e.g. fire, corrosion) is considered part of the mishap damage cost.
- An injury, such as a cut, fracture, burn, or poisoning, that is caused by a single or one-day exposure to an external force, toxic substance, or physical agent, and results in: a fatality, regardless of the time between injury and death; permanent total disability; permanent partial disability; or five (5) or more lost workdays (not including the day of injury).

2.02 **Aviation Mishap Categories** – Aviation mishaps are divided into three categories:

a. *Flight Mishap (FM)* – A mishap which results in $2,500 or more in damage to a NOAA aircraft or UAS, or the loss of a NOAA aircraft or UAS, when intent for flight existed at the time of the mishap. Other property damage, injury or death is not considered.

b. *Flight-Related Mishap (FRM)* – A mishap which results in less than $2,500 in damage to a NOAA aircraft or UAS when intent for flight existed at the time of the mishap, in addition to one of the following: $2,500 or more in total property damage, or a reportable injury or death.

c. *Aviation Ground Mishap (AGM)* – A mishap which results in: $2,500 or more in damage to a NOAA aircraft or UAS, the loss of a NOAA aircraft or UAS, $2,500 or more in total property damage, or a reportable injury or death; and intent for flight did not exist at the time of the mishap.

2.03 **Aviation Mishap Severity Classes**

a. Aviation mishaps are divided into three severity classes:

- *Class A* - A mishap in which the total cost of damage to property, NOAA aircraft or UAS exceeds $1,000,000; a NOAA aircraft is destroyed or missing; or any fatality or permanent total disability results from the direct involvement of NOAA aircraft or UAS. Loss of a UAS is not a Class A mishap unless the cost is $1,000,000 or greater.

- *Class B* - A mishap in which the total cost of damage to property, NOAA aircraft or UAS is $200,000 or more and less than $1,000,000; or a permanent partial disability or the hospitalization of three or more personnel results.

- *Class C* - A mishap in which the total cost of damage to property, NOAA aircraft or UAS is $2,500 or more and less than $200,000, or an injury requiring five or more lost work days results.

b. The mishap severity classification shall only consider injuries to active duty NOAA Corps personnel who are on or off-duty, injuries to on-duty NOAA civilian personnel, and any fatal injuries.

2.04 **Aviation Mishap Response**

a. In the event a deployed aircraft has a mishap, the Aircraft Commander (AC) shall make immediate positive contact with the Chief, Operations Branch. If the Chief, Operations Branch, is unavailable, positive contact shall be made with the Deputy Chief, Operations Branch, and so on down the chain of command until the mishap information is passed. Voice mail and e-mail messages are not considered positive contact.

b. The Emergency Response Plan (ERP) is the authority for AOC mishap response guidance. It is maintained in the Flight Section and posted on the AOC Local Area Network (LAN) or Sharepoint.

2.05 **Hazards and Hazard Reports** - One purpose of the AOC Safety Program is to detect and eliminate hazards before they become mishaps. Reporting and examining close calls, unrealized exposures, and vulnerable situations via Hazard Reports increases safety and awareness. Hazard Reports are submitted to the Chief, Safety, Standardization and Training Branch, using form *Form CD-351, Report of Possible Safety/Health Hazard*, which is available on the AOC LAN or Sharepoint. After the hazard is investigated and corrective actions are implemented, Hazard Reports shall be distributed to all AOC personnel.

SECTION 3. MISHAP AND INJURY REPORTING.

3.01 **Mishap Reporting** – AOC shall follow the mishap reporting guidance and requirements set forth in *NTSB Part 830, Notification and Reporting of Aircraft Accidents or Incidents and Overdue Aircraft, and Preservation of Aircraft Wreckage, Mail, Cargo and Records;* as well as *DOC Administrative Order 209-3, Injury, Illness, Incident, Fatality, and Motor Vehicle Accident Reporting and Investigation,* as applicable.

3.02 **Injury Reporting** - When a person is injured or involved in an accident during routine ground or flight operations, the priorities for those nearby are to get help, prevent further harm by checking and/or clearing the area, and applying first aid. After these critical initial steps are completed, comply with the following as applicable:

a. *Safety and Environmental Compliance Office (SECO) Reporting* - It is the responsibility of the injured person to report an injury that occurs on the job or in a duty status to their immediate supervisor. NOAA requires injuries be reported by an individual's supervisor on-line via the SECO web site, www.seco.noaa.gov/Incident_Reporting. Work-related incidents must be reported to SECO within 24 hours. Serious incidents, i.e. those involving a fatality, hospitalization of three or more employees, property damage totaling more than $1,000,000, or those that pose an imminent threat to public safety and the environment, must be reported within eight (8) hours. Refer to www.seco.noaa.gov for additional information.

b. *Workman's Compensation* - Employees that are eligible for workman's compensation should also report injuries to the Department of Labor via *Form CA-16, Request for Examination and/or Treatment*.

SECTION 4. OPERATIONAL RISK MANAGEMENT (ORM) ASSESSMENTS.

4.01 **Requirement** - An approved ORM assessment is required to be on file with the Safety and Standardization Section and available to the AC prior to the start of the project. This requirement may only be waived by the Commanding Officer (CO), AOC.

4.02 **Development and Routing** - The first AC assigned to a project is responsible for developing an ORM assessment. The ORM development team shall consist of the AC and at least one other AOC employee. All available resources should be utilized, specifically personnel with experience on similar projects or in similar operating environments. The ORM assessment shall be

submitted to the Chief, Safety, Standardization and Training Branch, for review, and then routed to AOC Management for concurrence. The CO, AOC, is the approving authority for all ORM assessments.

4.03 **Long-Term and Recurring Projects** - A valid ORM assessment may be carried forward on long-term or recurring projects (e.g. Northeast Right Whale) provided: the parameters of the project remain unchanged (location, equipment, altitudes, etc), oncoming crews review the ORM, and there are no irreconcilable problems with its execution. At a minimum, the first AC assigned to the project must review the previous ORM assessment and certify that no changes are required. That certification shall be submitted to the Chief, Safety, Standardization and Training Branch, for review, and then routed to AOC Management for concurrence. The CO, AOC, is the approving authority for all ORM certifications.

4.04 **Validity** - An ORM assessment and certification is valid for no more than one calendar year from the CO's date of signature, or until conditions, knowledge, or experience indicate that another assessment should be conducted. The risk reduction control measures in an approved ORM assessment are binding for the applicable project or mission.

SECTION 5. PERSONAL PROTECTIVE EQUIPMENT (PPE).

5.01 **Ground Operations** - AOC shall make suitable PPE conveniently available. Only AOC authorized PPE shall be used by employees.

5.02 **Flight Operations** - A *Nomex* (or equivalent flame-resistant material) flight suit shall be worn by each AOC crewmember from prior to engine starts to after engine shutdown. Hearing protection, safety shoes, and gloves shall be worn as required by the evolution being completed, and as per AOC Safety policies. Requirements for PPE may be adjusted during the ORM assessment process, but the approved ORM requirements are binding for all personnel aboard the aircraft.

5.03 **Aviation Life Support Equipment (ALSE)** - FARs, ICAO, NOAA, and AOC require ALSE under certain circumstances (e.g. over-water flight beyond gliding distance from shore). The ORM process may identify additional ALSE that should be used for a specific mission. Requirements for the specification, inspection, maintenance and distribution of ALSE are managed by the Safety and Standardization Section. When specific equipment is required to safely complete the project, particularly items that are individually sized (e.g. dry suits) or difficult to ship (e.g. inflatable life rafts), notice should be given to the Safety and Standardization Section as early as possible prior to the project start date.

SECTION 6. EMERGENCY DRILLS.

6.01 **Requirements** - ACs shall conduct emergency drills to maintain crew proficiency in emergency procedures. Drills should be realistic and shall be held on a not to interfere basis with the assigned mission. Participation by all crewmembers is mandatory. Ditching drills shall be conducted in flight to ensure all personnel can expeditiously and properly don their survival equipment. One emergency drill or discussion of emergency procedures involving the entire crew shall be completed each week during deployed operations.

6.02 **Logging** - Completion of the drill should be noted in the SITREP, flight log, and eventually the *AircraftLogs* database.

SECTION 7. HAZARDOUS MATERIALS (HAZMAT).

7.01 **Field Operations** – The Programs Section shall evaluate requests for carriage of hazmat for scientific reasons (e.g., the Principle Investigator (PI) wants to install a gas chromatograph), and, if necessary, route them through AOC's Alteration and Instrumentation Program for approval. Procedures for handling non-installed hazardous materials (e.g. the PI wants to mark narwhals with radioactive dye) shall be formulated, evaluated, and approved through the ORM process. Carriage of small amounts of aircraft maintenance items such as hydraulic fluid, oil, windscreen cleaner, etc. are considered a normal part of aircraft operations and are allowed on NOAA aircraft, however, aircrews should take reasonable care while handling and stowing these items.

7.02 **Transporting of Dangerous** Goods – Aircraft Commanders are responsible for ensuring that dangerous goods are transported without impact to safety of flight operation or personnel.

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	AUTHORIZED BY: CAPT Randall J. TeBeest, NOAA Commanding Officer, Aircraft Operations Center	**REVIEW DATE** January 1, 2013
		RESPONSIBLE Chief, Operations Branch

POLICY 220-1-3

AIRCRAFT OPERATIONS CENTER AEROMEDICAL

SECTION 1. GENERAL.

1.01 **Contents** – This policy includes the following sections and corresponding page numbers:

1.02 **List of Effective Pages**

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1.03 **Responsibilities** - Each Crewmember is responsible for maintaining a high level of mental and physical fitness, for complying with standards and regulations of NOAA and of *29 CFR*, and for keeping accurate emergency contact information on file at AOC. The Office of Marine and Aviation Operations (OMAO) shall provide a place of employment that meets the requirements of *29 CFR,* i.e. one free of recognized hazards likely to cause death or serious injury to its employees.

1.04 **Organization** - OMAO Health Services Staff is composed of U.S. Public Health Service (USPHS) officers on assignment to NOAA and designated NOAA Corps Officers and civilian personnel assigned by the Director, OMAO. A USPHS officer assigned to AOC serves as the Aviation Medical Officer (AMO) and is the liaison between OMAO, Military Treatment Facilities (MTFs), FAA and/or civilian medical examiners, and AOC personnel. The AMO makes fitness for flight duty determinations, is the reviewing authority for aviation physicals performed by other medical examiners, and serves as a consultant to the CO, AOC, on aeromedical issues.

1.05 **Access to Medical Records** - All medical records, memoranda, letters, etc. related to personal medical matters contain confidential information and are codified in U.S. law by the Health Insurance Portability and Accountability Act and the Privacy Act of 1974. With the exception of NOAA Health Services Staff, consulting or referring health care providers, the Director, OMAO, and the CO, AOC, such information shall not be divulged to any party without the written consent of the individual. Information concerning fitness or non-fitness for duty and/or projected dates of return to duty may be provided to the individual's immediate supervisor, without identifying medical details.

SECTION 2. PHYSIOLOGICAL RESTRICTIONS AND REQUIREMENTS.

2.01 **Common Physiological Restrictions** - Crewmembers are excluded from flight duty for the following reasons:

a. *Alcohol* – Flight, Air, and Mission Crewmembers shall not consume alcoholic beverages during the 12 hour period prior to the scheduled takeoff. Any crewmember or participant who the Aircraft Commander (AC) believes to be under the influence of or suffering the effects of alcohol or drugs will not be permitted aboard the aircraft.

b. *Immunization* – Because of the possibility of adverse reactions (both local and systemic), aviation personnel who receive immunizations shall be grounded for twelve (12) hours following immunization(s). For these routine immunizations, no formal paperwork (i.e. downchit, upchit) is necessary. Further temporary grounding may be necessary for significant side effects until resolved. Due to this recommended grounding policy, the individual should make every effort to schedule immunizations as to have the least negative impact on flight schedules.

c. *Dental* – Due to the effects that barometric pressure may have on teeth and adjacent tissues, all aviation personnel should strive to maintain themselves in dental Class I status (no restorations required). Personnel who have dental work done under local anesthesia shall be self-grounded for six (6) hours to allow the effects of the anesthetic to subside (numbness, slurred speech, etc.). Personnel undergoing more extensive dental procedures (e.g. extractions, root canal, crown prep, etc.) should be self-grounded for a minimum of twelve (12) hours. Some "routine" dental procedures can be traumatic (physically and emotionally) and personnel should make use of temporary self-grounding when needed.

d. *Surgical Procedures* – Will be handled on a case-by-case basis. Flight duty is prohibited for a minimum of six (6) hours following administration of local anesthesia.

e. *Blood Loss* – Flight duty is prohibited for 72 hours after losing or donating 200cc of blood or more, and prohibited for seven (7) days after losing or donating 500cc or more.

f. *Medication/Drugs* – When taking medication, unless a waiver has been granted by an FAA medical examiner or the AMO, downing time for prescribed drugs will be determined the AMO. Mild over-the-counter analgesics or similar (e.g. aspirin) may be used by individuals who have medical approval and are familiar with their effects.

g. *Physiological Training* – Flight duty is prohibited for 24 hours after participation in high-altitude training in a pressure chamber.

h. *Scuba Diving* – Flight duty is prohibited for 24 hours after of a non-decompression SCUBA dive and for 48 hours after of a decompression SCUBA dive.

i. *Pregnancy* – Because of the medical hazards of flight, pregnant flight personnel shall consult with the AMO when they first suspect they are pregnant. Flight personnel are grounded during pregnancy unless a clearance to continue in flight status is granted by the CO, AOC. Consideration for such clearance should be based on the desire of the pregnant aircrew member to continue flying, the formal recommendation and concurrence of her obstetrician, and the recommendation and concurrence of the AMO. The member shall submit her request to the CO, AOC, with these endorsements. Her request should acknowledge an understanding of the potential risks of continued flying during pregnancy. Nausea, decreased appetite, easy fatigability, dizziness, and vaginal bleeding are some of the potential problems that may cause the AMO to recommend temporary grounding for pregnant aviation personnel. Close monitoring is required by the AMO to ensure early identification of problems associated with pregnancy that could be hazardous to the pregnant member or others. In addition, the AMO will assess the ergonomic and toxic hazards, including noise exposure, toxins, radar/electronics, etc, to which the pregnant member and her fetus may be exposed in her particular aviation environment. Potential occupational health problems will be brought to the attention of the patient and the command. No pregnant member shall perform duties involving flying after the end of the second trimester, nor shall a pregnant member undergo physiologic training (e.g. pressure chamber, dunker, etc) or training involving swimming.

2.02 **Prescription Eyewear** - All Flight and Air Crewmembers who are required to wear prescription eyewear shall:

- Wear them during all flight operations, and
- Have a backup set of eyewear readily available to them during all flight operations.

SECTION 3. MEDICAL TREATMENT.

3.01 **Medical Treatment by a Non-Flight Surgeon/AMO** - Aviation personnel that present any physical or mental health complaint to a non-Flight Surgeon/AMO shall be automatically grounded until cleared by a Flight Surgeon/AMO.

3.02 **Medical Treatment Away from AOC** - Deployed personnel who require medical treatment should contact the AC and notify the AMO as soon as the situation allows. When practical, commissioned officers should seek treatment at a MTF. The AC is responsible for notifying the Chief, Operations Branch, when a crewmember has a physical ailment that requires medical treatment or consultation; see *AOC Policy 220-1.4, Sec 3,* for additional information on injury/accident reports.

3.03 **Rapid Decompression** - When involved in a rapid decompression event, the crew should contact the AMO for guidance on facilities and testing. Crewmembers shall report to the most convenient medical facility for evaluation of possible Decompression Sickness symptoms. Crewmembers shall not be allowed to fly until results of the evaluation have been reviewed by the AMO.

SECTION 4. PHYSICAL STANDARDS AND MEDICAL CERTIFICATION.

4.01 **Authority** - Physical standards for personnel aboard NOAA aircraft are established by the Director, OMAO, and the CO, AOC, with advice from OMAO health staff. The Director, OMAO, shall ensure that these standards comply with the policies of NOAA and appropriate Federal agencies, including the FAA, the USCG, and the Office of Personnel Management. OMAO shall

ensure that AOC determines initial and continuing fitness for duty through medical examinations and tests for all AOC personnel assigned to aviation duty. AOC medical staff may monitor the physical status of aviation personnel whose impairments would pose undue risk to themselves or others.

4.02 **Standards for Civilians** - Standards for civilian employees are similar to those used by the FAA for licensing and certification of airmen. Modification of FAA standards, however, may be necessary to account for NOAA's specific operational requirements such as: service in isolated areas, severe climatic conditions, hazards particular to the operation of research aircraft, and/or lack of access to medical facilities.

4.03 **Standards for NOAA Corps Officers** - In addition to meeting the medical standards and physical examination requirements of NOAA Corps Officers, commissioned aviation personnel must also meet the requirements for flight duty set forth in the NOAA Corps Directives and *COMDTINST M6410.3, U.S. Coast Guard Aviation Medicine Manual.*

4.04 **Qualified Examiner** - Physical examinations used for certification of AOC personnel shall be performed or approved by a currently certified FAA examiner, the AOC AMO, or by a uniformed services Flight Surgeon. The AOC AMO serves as the final approval authority on all physical exams performed by outside sources.

4.05 **Flight Crewmember Certification** – Heavy aircraft ACs are required to possess a valid Class 1 FAA medical certificate. All other Flight Crewmembers are required to possess a valid Class 2 FAA medical certificate. If limitations are noted on the FAA certificate, the conditions of the limitation must meet *AOC Medical Policy* standards. All NOAA Corps Flight Crewmembers must also maintain a valid uniformed service flight physical. This uniformed service flight physical is accomplished on a biennial basis and based on USCG standards (*COMDTINST M6410.3).*

4.06 **Air Crewmember Certification** - Air Crewmembers are required to possess a valid Class 3 FAA medical certificate or a valid uniformed service upchit (*AF1042, NAVMED 6410-2, CG Form-6020*). If limitations are noted on the FAA certificate, the conditions of the limitation must meet *AOC Medical Policy* standards.

4.07 **Mission Crewmember Certification** - Medical certification requirements for Mission Crewmembers are prescribed in *NAO 209-124*. Additionally, Mission Crewmembers and Participants shall read the *AOC Crewmember Guidelines and Information* (*Policy 220-1.1, Appx A)* and read, sign and submit the *Acknowledgement and Release* (*Policy 220-1.1, Appx C)* to the AC before their initial flight. Individuals are responsible for bringing to the attention of the AC any medical issues, conditions or exposures as early as possible before the flight.

4.08 **Maintaining Certification** - Any known degradation of medical condition that would result in a Flight or Air Crewmember no longer meeting the requirements of their medical clearance or any change in physical condition that could affect or limit performance of duties must be reported to the AMO, AOC. The AMO will report duty status to the individual's supervisor and the Chief, Operations Branch, only.

4.09 **Medical Standards and Waiver Procedures** - Specific medical standards, waiver procedures and applicability are detailed in *AOC Medical Policy*, which is located on the AOC LAN.

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		EFFECTIVE DATE February 17, 2012
	AUTHORIZED BY: CAPT Randall J. TeBeest, NOAA Commanding Officer, Aircraft Operations Center	**REVIEW DATE** December 1, 2012
		RESPONSIBLE Chief, Operations Branch

POLICY 220-1-2

AIRCRAFT OPERATIONS CENTER QUALIFICATION, DESIGNATION, AND TRAINING

SECTION 1. GENERAL.

1.01 **Contents** – This policy includes the following sections and corresponding page numbers:

1.02 **List of Effective Pages**

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1	17 February 2012	6	17 February 2012
2	17 February 2012	7	17 February 2012
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1.03 **Administration** - The Operations Branch shall ensure that AOC personnel involved in the operation of NOAA aircraft are qualified, proficient and current. The requirements of this policy and of applicable training syllabi are minimum standards only.

1.04 **Authority to Designate NOAA Aviators** - A NOAA Corps Officer may be designated a NOAA Aviator by the Director, NOAA Corps, once he is fully qualified as a Flight Crewmember and the CO, AOC, has approved the designation.

1.05 **Persons Authorized to Operate NOAA Aircraft** - The following persons are authorized to act as Flight Crewmembers on NOAA aircraft with approval of the CO, AOC:

a. Designated Flight Crewmembers who are qualified in the aircraft to be flown. For mission flights, NOAA Aviators must also be current in the aircraft to be flown.

b. Flight Crewmembers in training, subject to the limitations of *AOC Policy 220-1.1, Section 7.03.*

c. Non-NOAA Aviators who are authorized by the CO, AOC, to operate NOAA aircraft, are qualified and current in the type aircraft to be flown, and are qualified as a military aviator or, if civilian, in possession of appropriate FAA licenses, ratings, type ratings (if required), and medical certificates.

SECTION 2. QUALIFICATION AND DESIGNATION.

2.01 **General** - Flight and Air Crewmember candidates shall be required to progress through a qualification process and meet the criteria listed in this section before being recommended for designation by the CO, AOC, in a Crewmember position. Criteria for subordinate positions must be met prior to designation in a higher position, i.e. Copilot prior to Aircraft Commander (AC).

2.02 **Required Crewmember Training** - The following training requirements must be satisfied prior to designation as a Crewmember:

Crewmember Position	*Requirements Completed*
Aircraft Commander Copilot	FAR Part 61 or 141 fixed wing flight training program or DOD equivalent
Flight Engineer	DOD Flight Engineer School or equivalent certification of training
Navigator	DOD Aviation Navigation School or equivalent certification of training
Flight Crewmember (Includes all positions listed above)	For each aircraft to be flown: Approved Simulator Course (if available); AND Written Examination (may be part of simulator course); AND AOC Training Syllabus
Air Crewmember	AOC Training Syllabus
Mission Crewmember	Aviation Safety Training, per *NAO 209-124*

2.03 **Required Certificates, Ratings, and Licenses** - In addition to the requirements of Section 2.02 of this policy, Flight Crewmembers must possess certificates, ratings and licenses as follows:

Heavy Aircraft	*Certificate, Rating, and License Requirements*
Copilot	Commercial Pilot Instrument Airplane Multi-Engine Land Appropriate Type Rating
Aircraft Commander	All of the above, AND: Airline Transport Pilot Appropriate Type Rating
Navigator	DOD Designated Navigator
Flight Engineer	Flight Engineer Certificate Turbo Propeller Rating Airframe and Powerplant License
Light Aircraft	*Certificate, Rating, and License Requirements*
Copilot Aircraft Commander	Commercial Pilot Instrument Airplane Multi-Engine Land Appropriate Type Rating (if required)

2.04 **Minimum Flight Experience Requirements** - In addition to the requirements of Section 2.02 and 2.03 of this policy, Flight Crewmembers must meet the minimum flight hour requirements in the chart below prior to designation. The following definitions apply to types of flight hours in the chart:

a. *Type* - As defined by *FAR Part 1.1,* flight hours in the same aircraft make and basic model whether or not it is a NOAA aircraft, e.g. commercial King Air 350 or U.S. Navy P-3; and/or hours in a Level D simulator or military equivalent.

b. *AOC* - Flight hours in the NOAA aircraft of the type referenced.

c. *Instr* - Instrument hours as defined by *FAR Part 61.51(g).*

Aircraft	*Total*	*PIC*	*Type*	*AOC*	*Inst*	*Night*
P-3 Orion						
Aircraft Commander	1500	1000	500	50	---	---
Copilot	750	500	200	10	---	---
Navigator	500	---	200	50	---	---
Flight Engineer	500	---	300	50	---	---
Gulfstream IV-SP (G-IV)						
Aircraft Commander	1500	1000	500	250	---	---
Copilot	750	500	25	10	---	---
King Air 350CER (B300C)						
Aircraft Commander	600	300	300	300	50	25
Copilot	---	---	10	10	---	---
Jetprop Commander (AC-695)						
Aircraft Commander	600	300	300	300	50	25
Copilot	---	---	10	10	---	---
Twin Otter (DHC-6)						
Aircraft Commander	600	300	300	300	50	25
Copilot	---	---	10	10	---	---
Shrike Commander (AC-500S)						
Aircraft Commander	600	300	300	300	50	25
Copilot	---	---	10	10	---	---

2.05 **Additional Requirements for P-3 Hurricane AC and Flight Engineer (FE) Designations** - In addition to the requirements of Section 2.02 - 2.04 of this policy, the following requirements must be met prior to P-3 Hurricane AC and P-3 Hurricane FE designation.

a. *P-3 Hurricane AC* – Must serve on the hurricane watchbill for two complete seasons and execute 50 hurricane eye wall penetrations (left or right seat).

b. *P-3 Hurricane FE* – Must execute 25 hurricane eye wall penetrations in the FE seat.

2.06 **Previously Qualified Heavy Aircraft Pilots** - Pilots previously qualified as an AC or Copilot in a heavy AOC aircraft may qualify as an AC in a light aircraft by satisfying the following requirements in lieu of those in Section 2.04 of this policy:

a. Complete simulator training in a type-specific simulator, if available.

b. Fly 50 hours spread over at least two different projects in the light aircraft.

c. Complete an aircraft-specific AC transition syllabus, as determined by the Chief, Training Section.

2.07 **Written Exams** - Flight Crewmembers shall pass an annual written exam for each aircraft type to which they are assigned. Written exams should cover both aircraft systems and emergency procedures, and may be taken as part of an approved simulator course.

2.08 **Evaluation Checkflight** - Evaluation checkflights shall be administered by a designated Instructor Pilot/Navigator/Flight Engineer. Upon completion of an evaluation checkflight, the Instructor shall submit a Standardization/Evaluation Report to the Chief, Operations Branch, containing a recommendation for initial/re-designation or additional training as appropriate. See Section 3.02 of this policy for additional information.

2.09 **Limitations During Qualification** - Pilots in training (i.e. non-designated Copilots in the aircraft to be flown) may not occupy either pilot seat during operations below 200' AGL except during training flights with an Instructor Pilot (IP). Pilots in training for a heavy aircraft or an aircraft requiring a type rating must be graduates of an AOC-approved school for that aircraft prior to occupying either pilot seat below 200' AGL. The IP must be current in the aircraft and occupy the other pilot seat. Upon designation, a Copilot is authorized to perform all duties in either pilot seat as assigned by the AC.

2.10 **Requalification** - Flight Crewmembers shall go through requalification training and be redesignated following a non-flying period of greater than one year in order to return to flying status. Training shall include a demonstration of the knowledge, proficiency, and capabilities required of the Crewmember position. Requalification training requirements shall be determined on a case-by-case by the Chief, Training Section.

2.11 **Crewmember Designation** - If a candidate has met the requirements of Section 2.02 - 2.08 of this policy and is determined to be fully qualified by the Chief, Operations Branch, the candidate will be designated as a Crewmember in the appropriate position by the CO, AOC.

SECTION 3. TRAINING AND CURRENCY.

3.01 **Instructors** - The CO, AOC, shall designate Instructor Pilots/Navigators/Flight Engineers/Air Crewmembers as appropriate for each AOC aircraft type. Instructor Air Crewmembers may also be Flight Crewmembers. FAA or military examiners may act as Instructors during external evaluation flights. Instructors will administer evaluation checkflights for the crewmember position in which they are qualified in accordance with Sec 2.08 of this policy. Instructor qualification requirements and selection procedures are addressed in a separate policy.

3.02 **Annual Checkflights** - Flight Crewmembers shall complete a standardization/evaluation checkflight in each aircraft to which they are assigned within 12 calendar months of the last standardization/evaluation checkflight, subject to Section 3.04 of this policy. P-3 FE checkflights may be performed in the aircraft or in an approved P-3 simulator. FE checkflights shall be administered by an AOC-designated Instructor FE (IFE) or a qualified U.S. Navy Fleet NATOPS IFE and shall include other members of the flight crew (pilots and navigators) where appropriate.

3.03 **Annual Simulator Training** - Flight Crewmembers shall complete an approved simulator course annually in the primary aircraft to which they are assigned, subject to Section 3.04 of this policy.

3.04 **Annual Checkflight/Simulator Overlap** - Flight Crewmembers shall make every effort to meet annual checkflight and simulator training requirements. However, if normal operations or unusual circumstances prevent these requirements from being met, one will suffice for the other for a maximum period of six (6) months. A Flight Crewmember shall not be considered current if both checkflight and simulator requirements have lapsed. This provision is designed to allow AOC to meet operational requirements; this provision shall not used to delay checkflights or simulator training for an individual's convenience. While the Flight and Training Sections monitor the checkflight/simulator status of NOAA Crewmembers, the Crewmembers have ultimate responsibility for meeting this annual requirement.

3.05 **Annual Air Crewmember Training** – Air Crewmembers shall complete annual Air Crewmember training within 12 calendar months of their previous Air Crewmember training session. Annual Air Crewmember training shall be given by an Instructor Air Crewmember.

3.06 **Flight Training Hours** - AOC budgets a minimum of 10 hours of flight training per pilot per year for each aircraft in which they are designated and current. It is the responsibility of the pilot to utilize this training time effectively to maintain qualification, proficiency, and currency standards.

3.07 **Crew Resource Management (CRM) Training** - All Flight and Air Crewmembers shall complete an approved CRM course annually which shall include human factors and should include scenario-based training.

3.08 **Physiological Training Requirements** - All Flight and Air Crewmembers assigned to pressurized aircraft shall complete an AOC-approved physiological training course prior to their first flight in an AOC aircraft. Recurrent physiological training must be completed every five (5) years thereafter. The course should consist of a pressure chamber ascent (Type I for aircraft that operate above 25,000', Type II for below 25,000') and classroom instruction that should, at a minimum, include: anatomical effects of trapped gases and their treatment, hypoxia, use of aircraft oxygen systems, hyperventilation, disorientation, decompression phenomena, effects of explosive decompression, vertigo, flying while on medication, flying after scuba diving, night flying and the effects of smoking.

3.09 **Water Survival Training Requirements** - All Flight and Air Crewmembers shall complete an AOC-approved water survival training course prior to their first flight in an AOC aircraft where mission operations overwater are anticipated to occur, unless the aircraft remains within suitable gliding distance of shore. Recurrent water survival training must be completed every five (5) years thereafter. The course should include, at a minimum, classroom and practical instruction covering: swim techniques, drown-proofing, utilization of standard survival equipment (including life preservers, rafts, flares, signal mirrors, dye markers, and survival radios), rescue devices, and basic instruction on how to survive ditching at sea.

3.10 **Cold Weather Survival Training Requirements** - Flight Crewmembers involved in flights in cold weather areas (as determined by Chief, Operations Branch) shall complete an AOC-approved arctic survival course as soon as practical during the first year of such an assignment. There is no recurrent training requirement, but Crewmembers may request recurrent training.

3.11 **Initial Crewmembers for New Aircraft Types**

a. When assigning initial crewmembers to aircraft types new to AOC, the Chief, Operations Branch, will convene a board that, at a minimum, will address the following:

1. Flight and Air Crewmember requirements and qualifications

2. External training/check flight requirements

3. SOPs and checklists

4. Phase-in and follow-on training syllabus requirements

b. Board recommendations will be provided to the CO, AOC, for approval prior to AOC personnel operating the new aircraft.

3.12 **Instructor Check Flights**

a. Annual check flights for Instructors may be administered by another AOC Instructor qualified in the aircraft type or an FAA-approved or military examiner. Successful completion of a *FAR Part 61.56* Flight Review and *FAR Part 61.57(d)* Instrument Proficiency Check during annual simulator training will also satisfy IP checkflight requirements.

b. In order to promote standardization and safety, the Chief, Training Section, should administer Instructor checkflights or observe Instructors as they administer checkflights whenever possible. At the discretion of the Chief, Safety, Standardization and Training Branch, observed checkflights such as these may serve as annual Instructor checkflights.

3.13 **Flight Currency Requirements** - NOAA pilots must meet the recent flight experience requirements contained in *FAR Part 61.57* for day landings, night landings (refer to sections (b) and (e) of 61.57), and instrument flight.

3.14 **Practice Approaches** - To the maximum extent practicable, all flights should terminate in a precision or non-precision approach in order to maintain pilot proficiency in instrument flying.

3.15 **Delinquency** - Crewmembers that do not have a valid FAA Airman's Certificate, a valid FAA Medical Certificate or who have not met the requirements of Section 3 of this policy will be considered delinquent and restricted from flight duties.

3.16 **Notice of Due Dates** – The Flight and/or Training Sections will provide regular electronic reports to Flight and Air Crewmembers detailing flight hours accrued and upcoming due dates. It is the responsibility of each Crewmember to ensure they remain qualified and current. Training should be requested through the Chief, Training Section, as early as practical to avoid delinquency. Failure of the Flight or Training Section to notify a Crewmember of an approaching currency requirement does not relieve the Crewmember of the responsibility to maintain that currency.

SECTION 4. CONDUCT OF TRAINING FLIGHTS.

4.01 **Training Syllabi** – Training syllabi for all aircraft shall be maintained and updated by the Chief, Training Section, with input from Instructors in the applicable platform.

4.02 **Gradesheets and Training Write-ups** – When a training flight is conducted with an upgrading aviator, the AC conducting the flight shall submit a written report about the performance of the upgrading aviator for inclusion in the upgrader's training jacket. If the flight is a syllabus event, the report shall come in the form of a completed gradesheet with comments as appropriate. If not a syllabus event, the AC may simply submit a short synopsis in paragraph form of what occurred on the flight, identified strengths and weaknesses of the upgrading aviator, and what items were specifically worked on during the flight. This report will assist the upgrader in preparing for future flights and provide a performance history for Instructors who fly with the upgrader in the future.

4.03 **Aircraft Commander Limitations**

a. The following items may only be conducted with or signed off by an IP:

1. Simulated three engine landings (P-3)
2. Simulated three engine waveoffs (P-3)
3. Simulated two engine landings (P-3)
4. Simulated two engine waveoffs (P-3)
5. Simulated single engine landings
6. Simulated single engine waveoffs
7. Aborted takeoffs
8. Simulated engine failures after V1
9. Securing of electrical buses or circuit breakers
10. Boost-out airwork (P-3)
11. Simulated in-flight emergencies (system failures)
12. No flap landings (unless no flap takeoffs are approved in the aircraft)

b. Normal landings, normal waveoffs, approach flap landings, right seat landings, and no flap landings (in aircraft for which no flap takeoffs are approved) may be conducted with a qualified AC.

4.04 **Limitations During Training** - Simulating emergencies by disabling aircraft systems or simulating engine failure shall only be done by an IP for the aircraft being flown. The IP must be the AC on the flight and qualified and current in the aircraft being flown. All training maneuvers are subject to the following limitations:

a. *Simulated Engine Loss* – No engine will be shutdown or propeller feathered below 3000' AGL. Training for a power loss at V_1/decision/refusal speed shall be conducted by retarding the power lever or mixture lever in accordance with approved aircraft procedures.

b. *No-Flap Landings* – No-flap landings shall be made to a full stop unless the AFM or SOP approves no-flap touch and go's or takeoffs. The calculated no-flap landing and rollout distance must also leave sufficient runway remaining for the calculated accelerate-stop distance at landing weight.

c. *Stalls* – All stalls and approaches to stall shall be performed in VMC at or above 3000' AGL for light aircraft, 10,000' AGL for heavy aircraft, and only after properly clearing the area and conducting pre-maneuver brief and required checks.

d. *Multiple Emergencies* – IPs shall not compound emergencies in the aircraft unless one simulated emergency logically leads to another. Multiple emergencies or catastrophic failures should be practiced in the simulator.

	AIRCRAFT OPERATIONS CENTER NOAA Office of Marine and Aviation Operations	**CATEGORY** 220
		EFFECTIVE DATE February 17, 2012
	AUTHORIZED BY: CAPT Randall J. TeBeest, NOAA Commanding Officer, Aircraft Operations Center	**REVIEW DATE** January 1, 2013
		RESPONSIBLE Chief, Aircraft Maintenance Branch

POLICY 220-1-1

AIRCRAFT OPERATIONS CENTER
FLIGHT OPERATIONS

SECTION 1. GENERAL.

1.01 **Contents** – This policy includes the following sections and corresponding page numbers:

1.02 **List of Effective Pages**

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12	17 February 2012	27	17 February 2012
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1.03 **Crewmember Definitions** - The naming conventions for AOC Crewmember designations differ slightly from those in *Title 41 Code of Federal Regulations (CFR) Part 102-33.21*. References in this manual are to the AOC designations unless otherwise stated. For clarity, the correlation is as follows (excerpts from the CFR have been paraphrased):

AOC	CFR
Flight Crewmember:	***Crewmember:***
Perform duties involving operation of an aircraft in flight.	Perform duties directly related to the operation of the aircraft.
Examples: Pilot, Copilot, Flight Engineer, Navigator	Examples: pilots, copilots, flight engineers, navigators
Air Crewmember:	*OR* duties assisting in operation of the aircraft.
Perform emergency procedure duties in flight, not involving operation of the aircraft.	Examples: flight directors, crew chiefs, electronics technicians, mechanics
Examples: Flight Director, Observer, Aerial Photographer, Electronics Technician	

AOC	CFR
Mission Crewmember: Perform a particular function in flight or on the ground, not directly involving the operation of the aircraft or its emergency procedures, but involving the assigned mission. Examples: Mechanics, Program Managers, Researchers, Biologists	***Qualified Non-Crewmember:*** Person flying aboard a government aircraft whose skills or expertise are required to perform or are associated with performing the government function for which the aircraft is being operated. Examples: researchers, law enforcement agents, firefighters, agricultural engineers, biologists, etc.
Participant: Person authorized to fly aboard a NOAA aircraft who is not a Flight, Air or Mission Crewmember Examples: Media, VIP, military	***Observer:*** Person flying aboard a government aircraft who is officially granted Observer status under the guidelines of Qualified Non-Crewmember per NAO 209-124

SECTION 2. OPERATIONAL POLICIES.

2.01 **Official Use** - NOAA aircraft shall be used for official purposes only. The operation of NOAA aircraft for other than official purposes is expressly precluded by *41 CFR Part 102-33, OMB Circular A-126* and *NOAA Administrative Order (NAO) 216-104*. Aircraft Commanders have the authority and responsibility to deny passage to any person that they determine to be unofficial. Each NOAA aircraft flight shall have an appropriate task code or accounting number assigned by AOC.

2.02 **Nonessential Flights** - The use of NOAA aircraft for nonessential flights is not authorized. Any flight which could be construed as such is prohibited. Flights that are considered nonessential include, but are not limited to:

- Flights of a routine business nature for which other transportation, commercial or military, could be more economically substituted.
- Flights by any government official or associated groups, the sole purpose of which is the convenience or enjoyment of the persons concerned and which are not essential for the performance of official duties or the accomplishment of bona fide training.
- Flights not scheduled as per the daily aircraft schedule, unless approved by the Chief, Operations Branch, or Commanding Officer (CO), AOC.

2.03 **Persons Authorized to Fly on NOAA Aircraft** - The only persons authorized to fly on NOAA aircraft are those defined in Section 1.03 of this policy. Media representatives and other potential Participants on NOAA aircraft must be authorized by the CO, AOC, prior to flight. All Crewmembers and Participants shall comply with requirements set forth in *NAO 209-124* prior to flight. Specific procedures apply to the following persons:

a. *VIPs* - The Chief, Operations Branch, shall be notified prior to the embarkation of VIPs, and the procedures delineated in Section 4.08c of this policy shall apply.

b. *Foreign Nationals* - The embarkation of foreign nationals is strictly regulated. Refer to Section 10.09 of this policy.

c. *All Non-NOAA Personnel* – The manifest procedures delineated in Section 4.08 of this policy shall be adhered to when non-NOAA personnel are embarked.

2.04 **Celebrations and Public Displays** – NOAA aircrew and aircraft participation in celebrations and public displays must be approved by the CO, AOC.

2.05 **NOAA Aircraft Categories** – NOAA aircraft are divided into two zero fuel weight categories.

a. *Heavy Aircraft* - NOAA aircraft with a zero fuel weight greater than 20,000 pounds.

b. *Light Aircraft* - NOAA aircraft with a zero fuel weight of 20,000 pounds or less.

2.06 **Minimum Aircrew Complement** – Aircrews shall be made up of the following designated personnel subject to Section 2.06d of this policy:

a. *P-3*: Aircraft Commander (AC), Copilot, Flight Engineer, Observer

b. *G-IV:* AC, Copilot

c. *Light Aircraft:* AC, Copilot

d. *Modifications to Minimum Aircrew Complement*:

- Pilots in training for Copilot designation satisfy the above Copilot requirements on training flights with Instructor Pilots (IPs) (see *AOC Policy 220-1-2, Section 2.09*).
- The requirement for a Navigator and/or Flight Director is determined by the AC responsible for the flight.
- The requirement for a qualified mechanic during Light Aircraft operations in remote locations is determined by the Chief, Operations Branch.
- A Copilot may not be required on multi-engine aircraft for day, VFR ferry flights if the aircraft is Federal Aviation Administration (FAA) certified for single-pilot operation and approval has been received from the CO, AOC.

2.07 **Minimum Crew Restriction** - When a NOAA aircraft is engaged in a training flight, post maintenance check flight (see Section 7.19 of this policy), or flight operations involving a reduced number of operating engines or aircraft systems, personnel onboard shall be limited to the minimum crew required to accomplish the assigned mission. Minimum crew may include Flight and Air Crewmembers or appropriate maintenance personnel to observe and evaluate the evolution. Participants on non-syllabus training flights are permitted at the discretion of the AC.

2.08 **Hazardous Duty** - Hazard Duty Pay shall be authorized as per *AOC Policy 202-2*, *Payment of a Differential for Duties Involving Hazards.*

SECTION 3. COMMAND AND CONTROL.

3.01 **Aircraft Commander** - The Aircraft Commander (AC) is a direct representative of the CO, AOC. The Chief, Operations Branch, shall designate an AC on the AOC aircraft schedule for each AOC aircraft flight, to include flights with more than one qualified AC onboard. The AC has command

authority over all Crewmembers and Participants aboard the aircraft, and has command responsibility for ensuring the safe conduct of the mission. In addition to acting as the Pilot in Command as defined by *FAR Part 91.3,* the AC is responsible for:

- Go/No-go decisions
- Aircraft and personnel safety during flight operations
- Safe and efficient mission accomplishment
- Preflight and post-flight duties, to include checking weather and NOTAMs
- Adherence to applicable FAA guidelines and regulations, to include published noise abatement procedures consistent with safety
- Notification and coordination of maintenance requirements
- Compliance with AOC Policy 221-13, Tool Control and Accountability
- Ensuring the aircraft is airworthy, serviced, and required documentation, to include the Aircraft Flight Manual (AFM), Standard Operating Procedures (SOP) and Operational Risk Management (ORM) as applicable, are onboard the aircraft
- Notifying the nearest appropriate authority by the quickest available means of any accident involving the aircraft resulting in serious injury or death of any person, or substantial damage to the aircraft or property
- Delegating mission and flight duties to Crewmembers, as required
- Records, logs and communications, to include personnel status
- Billable flight hour tracking
- General cleanliness of the aircraft, to include the disposal of waste in accordance with local regulations
- Positive perception of NOAA through conduct and interaction with external agencies

3.02 **Project Manager** - The Project Manager (PM) is a direct representative of the CO, AOC, during all field phases of a project. The PM shall be designated in writing by the CO, AOC, and can be a member of Management or a Bargaining Unit Employee. The PM is the prime liaison with user organization(s) Principle Investigator(s) (PI) and manages all field services for aircraft and personnel. The PM reports to the CO, AOC, and liaisons with the AOC Branch Chiefs. A PM will be assigned to each project and can delegate their authorities and responsibilities to an AC when absent from the field operations location. The PM shall, through coordination with the AC, ensure that the project is executed in accordance with AOC policies. Specific PM responsibilities include, but are not limited to:

- In coordination with the AC, set work schedules in accordance with AOC policies and the Collective Bargaining Agreement (CBA). Request overtime from the appropriate budget manager for deployed personnel.
- Interface with the Chief, Programs Section to resolve budgetary issues.

- Conduct or oversee all pre-deployment logistics and administrative items to ensure that the project will be a success. This includes, but is not limited to: site surveys, FAA or airport badging, planned expendable resources, shipping of containers (if required), and working with the FBO or other entities to ensure adequate ground support and fuel is available. If in a foreign country, arrange diplomatic clearances and interface with appropriate embassy personnel.

- Liaison with crew lodging representatives and rental car agencies, if required. Ensure adequate transportation is available for crew and ground personnel to meet the flight schedule and any maintenance activities.

- Liaison with the PI and scientific team to ensure that their needs and mission objectives are met for each individual flight and the project as a whole. Ensure that the proposed flight profiles don't exceed the performance or range of the aircraft.

- Liaison with the FAA or other airspace controlling units to coordinate airspace usage and publish applicable NOTAMS.

- Keep supervisors apprised of personnel issues while deployed.

- If appropriate, notify local government or media officials about NOAA aircraft operations.

- Act as the media and VIP representative, and ensure that any guest Crewmembers arrive at the appropriate time and are escorted to the aircraft.

- Complete and submit the OMAO AOC Customer Satisfaction Survey.

3.03 **Mission Commander** - An aviator may serve as Mission Commander (MC) after being qualified by the mission-sponsoring component (e.g. Remote Sensing, Snow Survey) and designation by the Chief, Operations Branch. This designation is primarily a Snow Survey or Remote Sensing function but could be implemented in the future for other light aircraft operations requiring an MC. A person may serve as both AC and MC on a project, if so qualified and designated. Specific MC responsibilities include, but are not limited to:

- Mission planning
- Coordinating with the AC and, if applicable, the PI to facilitate mission success
- Data collection and transmission
- Data quality assurance
- Satisfactory installation and removal of scientific equipment
- Communication with the project sponsor and AOC

SECTION 4. FLIGHT PLANNING.

4.01 **Mission Briefing** - The AC shall ensure a mission briefing is conducted prior to all flights. The briefing shall be conducted far enough in advance to provide the crew time for flight planning and mission preparation. Normally, the briefing should occur no later than one hour before scheduled block-out time. For missions requiring more than a 15 minute briefing, the preflight reporting time shall be adjusted to allow for necessary planning, staging and preflight.

4.02 **Preflight Preparation** - Before commencing a flight, the AC shall become familiar with mission requirements and available information concerning the flight, in accordance with *FAR Part 91.103*. The AC shall not commence a flight unless it has been ascertained that all equipment

required for the safe operation of the aircraft is functioning (e.g. aircraft equipment, navigational aids, facility equipment, and aircraft servicing equipment). Crews should become familiar with local communications procedures, SAR services and flight operations (e.g. oil field helicopter operations, woodland firefighting, fish-spotting aircraft, Military Operations Areas).

4.03 **Weather Brief** - An aviation weather brief shall be obtained before all flights. The preferred source of weather information is a brief from a qualified meteorological forecaster or the Flight Director (if available). Use of multiple sources, however, to include NOAA's internet weather resources, is encouraged to get the best understanding of the scope of weather conditions during all phases of the mission. If weather conditions could conceivably threaten the completion of the flight, the AC shall develop an alternate flight and/or mission plan to execute if weather conditions dictate.

4.04 **Flight Plans** - A flight plan shall be filed for all flights. Pilots shall enter the MacDill AFB Command Post phone number, 813-828-4361, on the flight plan for notification of home base in case of emergency. Instrument Flight Rules (IFR) flight plans shall be filed in accordance with *FAR Part 91.169.* Visual Flight Rules (VFR) flight plans shall be filed in accordance with *FAR Parts 91.153.* Defense Visual Flight Rules (DVFR) and flights crossing the ADIZ shall be conducted in accordance with Section 10.01 of this policy. Flights from military airfields may require a military flight plan (*DD-175* or *DD-1801*). Flights terminating at a military airfield may require a Prior Permission Required (PPR) number. (A PPR number is obtained from the airfield's Base Operations office and contact information is available in the *DoD IFR Supplement)*.

4.05 **VFR Operations** – VFR operations shall be conducted in accordance with *FAR Parts 91.151-165, VFR Flight Operations*. ATC Flight Following shall be used to the maximum extent practicable.

4.06 **IFR Operations**

a. IFR operations shall be conducted in accordance with *FAR Parts 91.167-187, Instrument Flight Rules*. Flights in NOAA aircraft shall be conducted under IFR to the maximum extent practicable to increase safety of flight. This shall be construed to include all point-to-point and round robin flights or portions thereof, such as flights to and from operational areas that may be amenable to IFR filing. Portions of flights that are not conducted under IFR shall be conducted under VFR with ATC Flight Following to the maximum extent practicable.

b. IFR flights in NOAA aircraft shall be conducted in accordance with the rules, regulations, or recommended procedures specified by the publications in the following rank-ordered list. Where conflicting regulations or varying procedures exist, the higher ranking publication shall be followed:

- NOAA Administrative Orders and AOC Policies
- Federal Aviation Regulations and FAA Manuals; or ICAO Regulations
- Joint FAA/Military documents
- DoD publications
- All manuals presenting approved standard instrument approach procedures (e.g. Jeppesen, Federal Aviation Administration)

4.07 **Takeoff Weather Minimums**

a. An AC holding an ATP certificate and current in the aircraft is not subject to takeoff weather minimums. When departing from an airfield that is below approach minimums, the AC shall comply with the following requirements for takeoff alternates:

- Departure alternate shall not be more than 15 minutes from the departure airport at normal cruising speed in still air with one engine inoperative.

- Weather conditions at the departure alternate must be at or above a 600' ceiling and two (2) miles visibility if a precision approach is available, or at or above an 800' ceiling and two (2) miles visibility if a non-precision approach is available. Where no approach procedure is published, weather reports and/or forecasts must allow for a descent from the Minimum En route Altitude, an approach and landing under basic VFR weather criteria. For non-standard alternate minimums, refer to published instrument approach procedure tabulations.

b. ACs without an ATP certificate shall not take off when weather at the departure point is less than the published approach minimums and in no case when the ceiling is less than 200' and visibility is less than one-half mile.

c. A time-critical Operational Risk Management (ORM) analysis shall be completed prior to taking off when the weather is below approach minimums.

4.08 **Manifests** – ACs shall ensure the accuracy of the crew and passenger manifest for NOAA aircraft. The daily aircraft schedule manifest shall contain all persons on board NOAA aircraft. The crew and passenger manifest shall also be filed as follows:

a. *Crew Manifest Hotline* – The date, aircraft tail number, crew and passenger manifest, intended route of flight, and duration of flight shall be left as a voice message on the Crew Manifest Hotline, 813-828-3310 x3115, prior to each flight. Changes to the recorded information after the initial Hotline call necessitate another call with updated information.

b. *Guidelines and Release Form* - A copy of *Crewmember Guidelines and Information, Disclosure for Persons Flying Aboard Federal Government Aircraft*, and the *Acknowledgement and Release* form (see Appendices A, B, C) shall be provided to all non-AOC personnel planning to fly on NOAA aircraft. The AC shall ensure that signed copies of the *Acknowledgement and Release* form are faxed to AOC, 813-828-4529, prior to flight. If it is impractical to fax signed copies of the *Acknowledgement and Release* form prior to flight, the identification and emergency information for each passenger shall be relayed as a voice message on the Crew Manifest Hotline. Hard copies of the *Acknowledgement and Release* forms shall be retained and forwarded to AOC with the next shipment of flight logs and fuel receipts.

c. *Flight Logs for Flights Involving VIPs* – Presidential Appointees, elected officials, flag officers, Senior Executive Service members, congressional staffers, etc. must indicate "*VIP ONBOARD*" in the remarks section and include:

- Full name
- Title
- Rank/Grade (if SES or Flag Officer)

This is a congressionally mandated requirement. Embarkation of VIPs must be approved in accordance with the procedures in Section 2.03 of this policy.

4.09 **Personnel Items** - Crewmembers shall carry the following items with them on flights:

- FAA Airman's Certificate (Flight Crewmembers)
- FAA Medical Certificate or equivalent
- Official Passport (if international landing possible)
- Government credit cards

- Travel orders/Trip authorization
- Prescription eyewear (as required)
- Flashlight for night operations

4.10 **Aircraft Performance Planning** - The AC will ensure that aircraft performance planning for mission conditions is completed prior to the flight. Aircraft performance and planning requirements include, but are not limited to:

- A safe and effective takeoff plan, which provides for a sequence of actions to be implemented without delay if an emergency arises
- A minimum climb gradient of 200' per nautical mile at airports for which there are no published departure procedures or minimum climb gradient
- A positive rate of climb with the loss of a single engine on a multi-engine aircraft and flight above the Minimum Obstacle Clearance Altitude at any point
- Review of runway lengths at airports of intended use and takeoff and landing distance data

4.11 **Weight and Balance**

a. The AC is responsible for the proper loading of the aircraft, securing of the load, and certifying the weight and balance. The AC shall ensure the weight and balance report reflects the current configuration of the aircraft and that the center of gravity remains within safe limits for all phases of the mission.

b. The Chief, Maintenance Branch, shall maintain a current and continuous record of aircraft weight and balance information. Structural or equipment changes to an aircraft which could affect weight and balance shall be forwarded by the unit making the change to the Chief, Maintenance Branch, for inclusion in this record. This record shall be made available to the AC for use in computing the aircraft weight and balance.

4.12 **Fuel Planning**

a. Fuel load for the flight should be based on efficient and economic operation of the aircraft, but shall not compromise safety. When planning the fuel load, special consideration should be given to the unusual flight profiles and aircraft performance regimes required by many NOAA missions.

b. *FAR Parts 91.151* and *91.167* minimum fuel requirements for VFR and IFR operations respectively, apply to all NOAA flights. Additional fuel planning information may be available in the applicable Airplane Flight Manual (AFM) and applicable AOC aircraft-specific Standard Operating Procedures (SOP).

c. The AC shall determine fuel load requirements. When departing from AOC, the appropriate maintenance representative should be notified of fuel requirements the day prior to departure, but no later than one and one-half hours prior to scheduled block-out time.

4.13 **Minimum Servicing Levels** – Minimum servicing levels (e.g. oil, oxygen, prop fluid) shall be in accordance with AFM and/or Aircraft Maintenance Manual requirements for flight.

4.14 **Flight Tracking** – Aircraft equipped with Automatic Flight Following (AFF) may be tracked online at www.aff.gov, or https://apps1.trootrack.com/noaa/login.php. Aircraft on IFR flight plans, regardless of equipment, may be tracked at www.flightaware.com. Contact the Flight Section for specific information about these websites and website passwords. General information about an airborne aircraft without AFF that is not on an IFR flight plan may be obtained through a VFR flight plan, from the Crew Manifest Hotline, or from an FAA facility. Procedures related to critical

situations are contained in the Emergency Response Plan, which is located in the Flight Section and available on the AOC LAN.

SECTION 5. PREFLIGHT.

5.01 **Aircraft Inspection** - The AC shall ensure that a complete aircraft preflight inspection is conducted in accordance with the applicable AFM, regardless of whether maintenance personnel are performing similar functions. For Light aircraft, this will normally include physically checking that fluid levels are correct and filler caps are secured prior to flight. AC responsibilities during preflight include, but are not limited to:

- Ensuring Minimum Equipment List (MEL) requirements are met (see Sec 5.02 of this policy)
- Inspection of the maintenance log for unresolved discrepancies
- Ensure that discrepancies have been properly signed off in the aircraft maintenance log
- Ensuring mechanical or structural discrepancies have been resolved prior to acceptance
- Ensuring that the aircraft is properly fueled
- Certifying that the weight and balance has been computed for the aircraft as loaded
- Ensuring that the preflight duties of each Crewmember have been completed
- Delivering a safety brief in accordance with Section 5.03 of this policy, so that each Crewmember and Participant is familiar with emergency procedures
- Ensuring that each Crewmember and Participant is outfitted with proper flight/survival gear and is familiar with its use and stowage
- Completing a “last chance” walk around prior to engine start

5.02 **Aircraft Equipment and MELs** - When considering inoperable equipment, Flight Crewmembers of aircraft with an MEL shall use the MEL in accordance with *FAR Part 91.213*. Flight crews of aircraft without an MEL shall use the provisions of *FAR Part 91.213(d)*. Details of any malfunction or defect shall be recorded in the aircraft log and warning shall be given to Flight Crewmembers after removing, placarding or tagging the affected item. The MEL shall be carried on the respective aircraft at all times.

5.03 **Safety Brief** – The AC shall ensure that a thorough aircraft safety brief is given to all Crewmembers and Participants. The safety briefing shall include, but is not limited to:

- Manifest – ensure *Acknowledgement and Release* forms are filled out and on file for each Crewmember and Participant (see Appendix C).
- Smoking policy (see Section 6.01 of this policy)
- Seat belts/restraints use and requirements
- Aircraft access door(s) operation
- Emergency exit(s) location and operation
- Ground emergency and egress procedures
- Fire extinguishers location and operation
- Oxygen equipment location and operation
- Survival equipment location and use
- Ditching procedures

- Hazardous Materials – MSDS available on board
- Intercom/Communications use and sterile cockpit procedures in Section 7.06 of this policy
- Lavatory location and operation; location of air sickness bags
- Alcohol policy (see *AOC Policy 220-1-3, Section 2.01a*)
- Medical/Physiological issues, including: respiratory, sinus, cardiac and use of medications which could impact performance of flight or emergency duties, must be discussed with the AC prior to flight. Also see physiological restrictions in *AOC Policy 220-1-3, Section 2.01.*
- Unusual flight conditions and specific procedures required
- Heavy aircraft commanders shall conduct a planeside briefing to ensure the crew is aware of pertinent mission details, emergency procedures and Operational Risk Management (ORM) control measures.

SECTION 6. GROUND OPERATIONS.

6.01 **Smoking** - Smoking is prohibited aboard NOAA aircraft. Smoking is also prohibited within 50' of aircraft on the ground, and within 200' of aircraft on the ground during fueling operations. At airfields and facilities with more restrictive smoking regulations Crewmembers shall comply with local regulations.

6.02 **Loading and Off-Loading** - When aircraft are engaged in the loading and/or off-loading of personnel or cargo, the engine(s) on the side of the aircraft where loading or off-loading is taking place shall be shut down.

6.03 **Fueling**

a. When fuel, oil or other ramp services are provided by NOAA maintenance personnel or personnel under contract with AOC to provide aircraft maintenance, the maintenance supervisor shall ensure adherence to all safety precautions. When services are not provided by AOC or contract personnel, the AC or a designated Crewmember is responsible for ensuring services are performed in accordance with appropriate directives, including *AOC Maintenance Operating Instructions* (*MOI*).

b. The following fueling safety precautions shall be observed:

- Correct type and grade of fuel shall be verified prior to fueling.
- Fueling shall be accomplished in accordance with the appropriate aircraft maintenance manuals and *AOC Policy 209-4*. It shall be accomplished outdoors and at least 50' from flammable and potentially hazardous equipment and materials which could create open sparks. This includes but is not limited to: battery chargers, electric tools and equipment, matches, open flames, etc.
- Fuel shall be checked for the presence of water and contamination.
- The aircraft, fuel truck or pit, and fuel nozzle shall be grounded.
- Fire extinguishing equipment shall be available during the fueling process.
- Any RF transmission is a potential source of fuel ignition. Use of transmitting equipment during fueling operations should be avoided.
- Fueling shall not be accomplished within 200' of energized aircraft radar equipment or 300' of energized ground radar equipment.

- Operation of an auxiliary power unit while fueling shall be in accordance with the appropriate aircraft/equipment manuals.
- Non-essential Crewmembers shall not embark, be on board, or disembark the aircraft while fueling is in progress.
- Oxygen shall not be serviced while fueling is in progress.
- Night fueling shall be accomplished with adequate lighting. Flashlights, when used, shall be of the vapor proof type, approved by Underwriters Laboratories for use in hazardous locations.
- Fuel quantity shall be verified upon completion of fueling.
- Procedures for a fuel/hazardous material spill at MacDill AFB are contained in *AOC Policy 209-4.*

c. In the event of a fuel/hazardous material spill off-base, Flight Crewmembers shall:

- Contact local airfield authorities
- Remain on site until the airfield authorities determine whether local or federal spill limits have been exceeded
- Report the spill and all descriptive information to the Chief, Operations Branch, immediately

6.04 **Engine Starts**

a. *Required Personnel* - Aircraft engines shall not be started without qualified personnel (i.e. pilots, flight engineers, observers, mechanics, etc.) occupying required positions for starts.

b. *Procedures* - Before starting an engine, the parking brake shall be set and the Flight Crewmembers in the cockpit shall clear the area around the engine to be started. If a ground attendant is present when starting an engine, signals between the ground attendant and the Crewmember at the controls must be clearly understood before action is taken by either person.

c. *Hearing Protection* - Hearing protection shall be worn by ramp personnel in close proximity to aircraft engines and auxiliary power units that are running or being started.

d. *Eye Protection* - Eye protection shall be worn by ramp personnel in the engine or propeller jet blast area during engine starts and maintenance turns.

6.05 **Taxiing Aircraft**

a. The following personnel may taxi NOAA aircraft:

- Pilots designated in the aircraft to be taxied
- Pilots in training under direct supervision of a designated pilot
- Crewmembers and maintenance personnel designated in writing by the Chief, Operations Branch
- Crewmembers and maintenance personnel in training when under direct supervision of a designated person as stated here

b. When taxiing in close proximity to obstructions or other aircraft, ground personnel (wing walkers) shall be used to monitor the aircraft and ensure safe taxiing. Individuals occupying the pilot and copilot seats shall wear seatbelts during taxi operations. Aircraft towing regulations and procedures are described in *MOI, Chapter 5*.

6.06 **Safety Belt Use** - ACs shall ensure that all Crewmembers and Participants have safety belts/restraints securely fastened, to include shoulder harnesses if available, during taxi, takeoff, approach and landing, prior to and during anticipated turbulence, and at all other times deemed appropriate by the AC.

SECTION 7. IN-FLIGHT OPERATIONS.

7.01 **Conduct of Flight** - All AOC flights shall be flown in accordance with the provisions of this manual, the FARs and/or ICAO procedures. The AC shall conduct the flight in such a manner as to avoid unnecessary hazards. No person may serve as a Crewmember on NOAA aircraft if his physical or psychological condition could impair safe conduct of flight or ground operations.

7.02 **Critical Phases of Flight** – Critical phases of flight include:

- Engine starts
- Taxi
- Takeoff
- Departure
- Approach
- Landing
- Operations below 500’ AGL
- Operations in and around severe weather

7.03 **Crewmember Positioning** – Flight Crewmembers shall be in their seats with seat belts/restraints fastened during taxi, takeoff, approach and landing, unless normal or emergency duties required during these evolutions dictate otherwise.

a. Pilots in training may not occupy either pilot seat during operations below 200’ AGL except during training flights with an Instructor Pilot (IP) (see *AOC Policy 220-1-2, Section 2.09*).

b. A Navigator in training may occupy the Navigator’s seat when under the direct supervision of a qualified Navigator.

c. A Flight Engineer in training may occupy the Flight Engineer’s seat when under the direct supervision of a Qualified Flight Engineer or Hurricane Qualified Flight Engineer, as required by the type of flight.

d. At the discretion of the AC, non-Flight Crewmembers may briefly occupy Flight Crewmember seats if a qualified AC is seated at the flight controls and a qualified Flight Crewmember has direct oversight at all times. Non-Flight Crewmembers shall not occupy a Flight Crewmember seat during critical phases of flight.

e. P-3 flight station bench seats may be occupied at the discretion of the AC.

7.04 **Crew Coordination** - There is no substitute for good communication between Crewmembers during aircraft operations. Crewmembers shall give clear and immediate responses to each other using standard phraseology in accordance with operating checklists, applicable AFMs and the *Aeronautical Information Manual (AIM)* whenever possible.

7.05 **Use of Checklists** – Aircraft operating checklists shall be utilized and adhered to. Emergency checklist items shall be executed using a "Challenge, Reply, Reply" format, wherein the pilot running the checklist verbalizes the action to be performed and the expected response. The Flight Crewmember responsible for completing the action does so, and then provides the actual response.

7.06 **Sterile Cockpit Procedures** - Sterile cockpit procedures shall be in effect during critical phases of flight. Crewmembers shall not engage in, and ACs shall not permit, any activity during critical phases of flight which could interfere with the proper execution of flight duties. Conversations related to training or check flights specifics are permitted.

7.07 **Required Flight Station Crew** - The AC shall occupy the left or right seat during all critical phases of flight identified in Section 7.02 of this policy; the one exception to this is if an additional Hurricane Qualified AC is onboard the aircraft, then he can occupy the left or right seat for operations in and around severe weather in place of the AC. Both pilot seats shall be occupied below 1000' AGL. The P-3 Flight Engineer seat shall be occupied below 500' AGL. Careful consideration should be given to terrain, mission profile and flight environment before making flight crew rotations.

7.08 **Flight Station Entry** - Additional AOC Crewmembers may be permitted in the flight station during takeoff, climb, approach and landing if seats not required by primary Crewmembers or Flight Examiners/Instructors are available. Non-AOC Crewmembers and Participants may be permitted in the flight station under the same conditions once they have been briefed on sterile cockpit procedures.

7.09 **Departure Briefing** - Prior to taking the runway for takeoff, the pilot at the controls shall brief the appropriate Flight Crewmembers on takeoff and climb procedures, including headings, intermediate altitudes, anticipated maneuvers, and cruising altitude. The brief shall also include hazards, abort procedures, emergency instructions and a plan to immediately return to the airport.

7.10 **Intersection Takeoffs** - Takeoffs should normally be initiated from the beginning of the approved useable portion of the runway. Intersection takeoffs may be conducted only after the AC has ensured the aircraft performance, runway length remaining and runway condition meet takeoff requirements.

7.11 **After Takeoff Restrictions** - Aircraft shall not make turns below 500' AGL on the climb out unless specifically directed by ATC. The after-takeoff/climb checklist should not be initiated below 500' AGL so that Flight Crewmembers can maintain a vigilant outside scan.

7.12 **Internal/External Transmissions** - Phraseology used on the aircraft radios and intercommunication system (ICS) shall be in accordance with the *FAR*, ICAO, *AIM*, and the appropriate AFM. There shall be no external radio transmissions without the AC's permission. External transmissions (e.g. cellular phone calls, text messages, X-Chat) concerning aircraft condition, malfunctions or emergencies shall be approved by the AC prior to release.

7.13 **Terrain Clearance** - The AC is responsible for terrain avoidance during all phases of flight. At night or under IMC, when terrain clearance within 25 nautical miles of the intended course is less than 3000' below the flight altitude, the Copilot or Navigator (if aboard) shall monitor the aircraft's flight path using appropriate charts with maximum elevation figures published to ensure terrain clearance.

7.14 **Obstacle Clearance** - Aircraft must be capable of vertically clearing all obstacles within the IFR climb out area as defined in DoD or FAA standard instrument departures or Obstacle Departure Procedures. Multi-engine aircraft must be capable of clearing, with one engine inoperative, all obstacles along the flight path or maintaining visual separation of at least 300' from any obstacle higher than the climb out flight path.

7.15 **Autopilot Use** - Autopilot use is encouraged as it can decrease pilot workload and thereby increase situational awareness. The autopilot shall be operated in accordance with applicable AFMs, and shall not be used during takeoff, landing, or operations below 200' AGL unless aircraft manufacturer's guidance authorizes its use at lower altitudes.

7.16 **Operations at or Below 1000' AGL** - When mission requirements call for flights at or below 1000' AGL, Crewmembers shall familiarize themselves with terrain and obstruction clearance requirements prior to the mission. Guidance may be found in the *AIM 7-5-3, Obstructions to Flight*.

a. The following planning and operational requirements apply:

- The CO, AOC, must approve flights below 200' AGL.
- A fully-functioning pilot's radar altimeter is required for flights below 1000' AGL.
- FAA approval including waiver, if applicable, must be obtained prior to flight.

b. *Day VMC* - Below 500' AGL, turns shall be limited to standard rate. Turns shall not be planned below 200' AGL.

c. *Night VMC and IMC* - Below 1000' AGL, turns shall be limited to standard rate. Turns shall not be planned below 500' AGL (1000' AGL if pilot's radar altimeter is inoperative).

d. *Over Water* - A life preserver (Switlik or equivalent) shall be worn at or below 500' AGL.

7.17 **Over Water Operations** – Over water operations shall comply with *FAR 91.509* and ICAO regulations (depending on the region of flight). Special attention should be paid to over water hazards and procedures during preflight preparation required by Section 4.02 of this policy. All Crewmembers and Participants shall comply with the Aviation Safety Training requirements set forth in *NAO 209-124*. The following ALSE requirements apply:

a. *Life Preserver* - A life preserver (Switlik or equivalent) shall be worn at or below 500' AGL.

b. *Anti-Exposure* Suit - An anti-exposure suit, either continuous-wear or quick-donning, shall be provided for each occupant in aircraft operated over water when either of the following ambient conditions prevail:

- The water temperature is 59 degrees Fahrenheit or below.
- The surface level outside air temperature is 32 degrees Fahrenheit or below.

The decision to don anti-exposure suits shall be made by the AC based on all pertinent factors, including type and duration of mission, ambient outside temperatures and proximity and capability of search and rescue (SAR) facilities.

7.18 **Use of Oxygen** - Use of supplemental oxygen shall be in accordance with *FAR 91.211* and the appropriate AFM.

7.19 **Post Maintenance Check Flights (PMCFs)**

a. The AC shall ensure that the requirements of *MOI Chapter 2* are complied with prior to accepting an aircraft from a maintenance facility. PMCFs shall be conducted in accordance with the *MOI* and the applicable Aircraft Flight and Maintenance Manual(s).

b. P-3 functional check flights shall be conducted in accordance with the P-3 NATOPS.

c. PMCFs shall be completed whenever the aircraft has received major modification, major systems repair, or has undergone a major scheduled inspection (e.g. 100-hr, phase). Aircraft systems that affect normal aircraft operation (e.g. hydraulic, electrical, flight control) and any system that underwent repair or inspection shall be tested.

d. The AC shall consult the AOC Maintenance Section and/or the Science and Engineering Branch for special instructions concerning completed modifications and specific systems that may have been altered during the maintenance period, if applicable.

e. PMCFs shall be conducted during daylight hours in VMC and with the minimum amount of fuel and number of personnel required.

7.20 **Hazardous Conditions** - NOAA aircraft shall not be operated into known or forecast hazardous conditions, including icing, which would exceed aircraft limitations as published in the AFM. Aircraft de-ice and anti-ice equipment must be tested and functional prior to flights into known or forecast icing. Light aircraft shall not be operated into areas of known or forecast thunderstorms unless the aircraft has operative weather radar, or the weather forecast indicates that the flight can be conducted through the area visually with adequate separation from thunderstorm activity. Thunderstorms shall not be penetrated by light aircraft even when the aircraft is equipped with weather radar.

7.21 **Severe Weather Penetrations** - Procedures for severe weather penetrations are contained in the applicable AFMs, SOP and ORM assessments. ACs shall review forecast and current conditions as well as aircraft limitations when making the decision to penetrate severe weather. A Hurricane Qualified AC shall occupy the right or left seat during hurricane eye-wall penetrations. A Flight Engineer in training may occupy the Flight Engineer position when under the direct supervision of a Hurricane Qualified Flight Engineer during hurricane eye-wall penetrations.

7.22 **Maneuvers** - Prior to performing maneuvers, flight crews shall ensure that the area is clear and that the maneuver can be conducted in accordance with the AFM, SOP, the AOC *Training Manual* and the provisions of *AOC Policy 220-1.2, Qualification, Designation and Training*. See-and-avoid techniques shall be employed at all times. Seatbelt usage should be considered prior to commencing any maneuver.

7.23 **Weather Minimums** – If the latest meteorological information indicates that conditions at the destination airfield and the listed alternate(s) will not be at or above the specified airfield operating minima at the estimated time of arrival, the flight should not be continued.

7.24 **Approach Briefing** – Prior to commencing an approach, the pilot-at-the-controls shall brief the Flight Crewmembers on procedures to be used during the approach and landing. This briefing shall be consistent with the AFM and SOP for that aircraft. The briefing shall address, but is not limited to: the airport, approach and runway of intended landing, weather conditions, aircraft configuration, status of relevant equipment (e.g. de-icing, autopilot), radios and communications, final approach course, approach minimums, approach and airfield lighting, runway length and touchdown elevation, missed approach instructions, and Minimum Safe Altitude (MSA).

7.25 **500' AGL Landing Checklist Review** – As the aircraft passes through 500' AGL on final approach for landing, the Pilot not at the controls shall review the landing checklist and landing clearance, and state "500', Review Complete."

SECTION 8. POST-FLIGHT.

8.01 **Aircraft Chocking** - At a minimum, both sets of main landing gear wheels shall be chocked fore and aft with the appropriate size chocks. Anytime the aircraft departs its home base, the required number and size chocks shall be carried onboard.

8.02 **Post-flight Debriefing** - The AC shall ensure a post-flight debriefing is conducted with all Crewmembers and Participants that addresses the performance of equipment and personnel, completion of mission objectives and safety of flight issues. This should be accomplished prior to releasing the crew from duty.

8.03 **Flight and Maintenance Log** - The AC and Flight Engineer or Crew Chief shall complete all flight time entries and maintenance write-ups in the Daily Flight Log and the Aircraft Maintenance Log, respectively. The AC shall sign the Daily Flight Log upon completion of the flight. The AC, FE, Crew Chief, and/or other applicable Crewmembers should debrief maintenance personnel on the status of degraded aircraft equipment as soon as possible after the flight ends.

8.04 **Logging Pilot-in-Command (PIC) Time** – Since all NOAA aircraft require two pilots, the AC of a NOAA aircraft that requires more than one pilot may log all of his flight time as PIC time. The Copilot may log only the flight time during which he is the sole manipulator of the controls as PIC time, and the remainder of the Copilots flight time will be logged as Second-in-Command (SIC) provided he was in either the left or the right seat. Note: therefore, it is possible for total PIC time on a flight to exceed total flight time.

8.05 **Logging Instrument Time** - A pilot may log instrument time whenever he operates the aircraft solely be reference to instruments and is the sole manipulator of the controls. Therefore, a pilot may not log instrument time while he is performing SIC duties, whether or not that pilot is designated as the AC. Instrument time, therefore, cannot exceed PIC time.

8.06 **Disposition of Logs** - A Daily Flight Log shall be completed for each day's flights. The original copies shall be mailed to the Flight Section on a weekly basis. At the end of the month, remaining logs shall be sent via overnight mail in order to reach AOC no later than the fifth day of the next month. The AC is responsible for mailing logs to AOC when the aircraft is deployed.

8.07 **Daily Situation Report (SITREP)** - ACs shall ensure a daily SITREP is sent to AOC. SITREP information shall include: date, aircraft identification, mission/project supported, utilization code, flight number(s), flight and block times, airfields, landings, total aircraft hours, hours until scheduled maintenance, total landings, aircraft status, mission status, remarks (general, maintenance, and training), new maintenance squawks, open squawks, AOC Crewmembers for the day, crew location (city, lodging, telephone number), aircraft location (FBO or military base location and telephone number), project hours to date, and individual flights for the fiscal year. SITREPs may be transmitted by e-mail, telephone, or fax.

8.08 **Other Regular Requirements** - In addition to the above reports, the AC, Mission Commander or Project Manager shall ensure that the following documents are forwarded to AOC in a timely manner:

- Travel vouchers for AOC personnel assigned to the mission for travel exceeding 30 days
- Fuel receipts, marked with the project task number, tail number, location, date and flight number

- IMPAC card receipts
- CD-81 and time and attendance sheets

SECTION 9. AIRCRAFT AND PERSONNEL SECURITY.

9.01 **Disaster Contact Procedures** - In the event of a disaster affecting any region where AOC employees are either stationed or traveling, each employee shall make positive contact with a supervisor as soon as practical after the event. Positive contact requires an acknowledgment that the contact was received. Unacknowledged voice mail or e-mail messages are not considered positive contact. In the event AOC personnel cannot be reached through an office phone line, cell phone, or by any other means, attempt contact using:

- NOAA emergency notification telephone – 888-NOAA-911 (888-662-2911)
- Emergency notification website – **www.homelandsecurity.noaa.gov**

9.02 **Severe Weather at AOC** - The plan for AOC personnel, aircraft, and operations in the event of severe weather at AOC is contained in *AOC Policy 209-6* on the AOC LAN.

9.03 **Severe Weather at Remote Locations** - When an aircraft must be left on a field, airport, or other remote area, the AC shall take adequate measures to ensure the safety of the aircraft and equipment to include the use of tie downs, two or three sets of chocks, gust locks, hatch covers, and orienting the aircraft into the wind. If forecast weather poses a threat to the aircraft or equipment, use the following table from *AOC Policy 209-6*:

Forecast Winds (KTS)	*Forecast Winds (MPH)*	*Heavy Aircraft*	*Light Aircraft*
70 or more	80 or more	Evacuation	Evacuation
50 to 70	60 to 80	Hangar	Hangar
50 or less	59 or less	Tie Down	Hangar
more than 35	more than 40		Hangar
35 or less	40 or less		Tie Down

9.04 **National Threat Alerts** - Necessary security measures for NOAA aircraft depend on alerts issued by the National Terrorism Advisory System (NTAS). NTAS Alerts are published by the Department of Homeland Security (DHS) and can be accessed at http://www.dhs.gov/index.shtm. This system was put in place on April 26, 2011 and replaced the color-coded threat level system. ACs must consider existing alerts when determining appropriate security measures. Security measures required based on the type of alert issued are as follows:

a. *No NTAS Alert*

- Establish and distribute a recall list or phone tree.
- Brief aircrew on preplanned protective measures and current threat assessments.
- Register aircraft and provide local and AOC contact information to FBO.

b. *Elevated NTAS Alert* – Elevated alerts are issued when no specific information about the timing or location is available.

- Transfer deployed aircraft to tower controlled airfields.

- Ensure 24-hour security is provided at airfield.
- Review emergency procedures with aircrew.
- Exercise emergency plans with aircrew including verification of contact information.
- Require AOC escorts and/or acceptable identification badges for non-AOC personnel.
- Ensure immediate contact is possible with aircrew during off-duty hours.

c. *Imminent NTAS Alert* – Imminent alerts are issued if the threat is impending or very soon.

- Recall aircraft deployed outside the U.S. as soon as practical.
- Transfer deployed aircraft to secure government airfields.
- Verify 24-hour security on aircraft.
- Limit aircraft access to AOC personnel and those with DOC background checks or equivalent.
- Require all aircrew to drive to and from the aircraft wearing civilian attire.
- Halt project flights except for security necessitated reposition or flights in support of Homeland Security Directives.
- Check all luggage and cargo aboard aircraft during preflight.

9.05 **Aircraft Security** - The security of NOAA aircraft shall be the responsibility of the AC assigned to the project. Security tape has been distributed to all NOAA aircraft in an effort to detect unauthorized tampering or intrusion. The following items serve as general security guidance to ACs:

- Consideration should be given to contacting the Air Force Intelligence Office at MacDill AFB for information on current force protection threats in foreign countries when determining appropriate security measures. The MacDill AFB Air Force Intelligence Office phone number is 813-828-9568.
- Ensure thorough aircraft inspections are performed prior to pre-flight or work related activities.
- Ensure all crew doors, baggage bays, access panels and maintenance compartments that are accessible from outside the aircraft are secured. If they cannot be secured, a thorough inspection and/or use of security tape shall be implemented when an applicable NTAS alert is in place.
- Entries shall be annotated in the security tape log provided when security tape is used.
- Contact law enforcement authorities and the CO, AOC, if a compromise of the aircraft is suspected or confirmed.

9.06 **Hijacking** - The many variables of an aircraft piracy (hijacking) attempt preclude providing a single, specific counter-hijacking procedure.

a. If at all possible, the transponder should be set to 7500 and/or verbal communications with ATC should include the phrase “squawk seven five zero zero.” ATC will ask you to confirm squawking 7500, and if confirmed or if no reply is received, ATC will proceed as though hijacking is in progress.

b. Factors to consider during a hijacking include the nature of the threat, imminent danger to the aircraft or personnel, destination indicated by the hijacker(s), and the presence of hazardous material aboard the aircraft. Some counter-hijacking techniques the aircrew should consider are:

- Dissuading the hijackers verbally
- Proposing more favorable alternatives, such as landing in a neutral rather than unfriendly country
- Exploiting any reasonable opportunity to physically incapacitate or overcome the hijackers. Aircrews are authorized to make such an attempt if they consider such actions their only hope. The aircrew must carefully weigh the unique circumstances of the hijacking situation and all aspects of a decision to attempt overcoming the hijackers.
- Configuring the ICS system to isolate the flight station or to allow transmission from another crew position.

c. Flight Crewmembers should be familiar with *AIM Section 6-3-4; Special Emergency (Air Piracy).*

SECTION 10. OCONUS OPERATIONS.

10.01 **Air Defense Identification Zone (ADIZ)** - NOAA mission profiles frequently involve ADIZ penetrations and atypical flight paths. Flight Crewmembers shall familiarize themselves with *AIM Section 5-6, National Security and Interception Procedures*, to plan for such profiles**.** An IFR or DVFR flight plan is required for flights which will penetrate an ADIZ. DVFR flight plans do not include search and rescue services, so a concurrent VFR flight plan should be filed. DVFR flight plans should be filed either in person or by telephone prior to departure as aircraft with air-filed non-IFR flight plans may be subject to interception when crossing the ADIZ. If a discrete squawk code has been assigned, it should be noted on the flight plan. Flight Crewmembers should monitor VHF frequency 121.5 and/or UHF frequency 243.0 when operating near or in an ADIZ. Flights shall be operated in accordance with *14 CFR Part 99, Security Control of Air Traffic.*

10.02 **Passports** - AOC Crewmembers shall carry an official passport during any flight that is planned to or has the possibility of landing outside of the United States (due to emergency). The AC shall ensure that everyone on board is correctly documented prior to takeoff on an international flight.

10.03 **Flight Planning for International Operations**

a. Primary flight planning resources for international operations include:

- The FAA *International Flight Information Manual*, available online at: http://www.faa.gov/air_traffic/publications/ifim/
- The *DoD General Planning Guide (GP)* and *DoD Foreign Clearance Guide (FCG)*. Hard copies are available in the AOC Flight Section.
- The State Department's website (http://travel.state.gov) for information on travel conditions in foreign nations and current warnings.
- The U.S. *Aeronautical Information Publication,* especially Part 1.7, *Differences from ICAO Standards, Recommended Practices and Procedures*, available online at: http://www.faa.gov/air_traffic/publications/media/aip.pdf.

b. In addition to the above, consultation with personnel who have operated in the area or on similar missions is extremely valuable and should be utilized whenever possible. Planning for international operations needs to start well in advance of the project and should include the items listed in Section 10.04 through 10.11 of this policy.

10.04 **Charts/Publications** - The AC should submit requirements for international charts and flight publications to the Flight Section no later than 60 days prior to leaving the U.S. A thorough review of the materials covering each intended route and landing should be completed prior to departure with differences from U.S. standards (units of measure, layout, terminology, infrastructure, etc) briefed.

10.05 **Medical/Immunizations** – The Chief, Programs Section or AC shall inform the AOC Medical Officer to pending international operations in sufficient time to complete immunizations prior to departure. The Medical Officer can obtain additional medications, if necessary, and brief the Crewmembers on their use and carriage.

10.06 **Diplomatic Clearances** - Foreign and over-flight clearances are arranged by the Programs Section after Flight Section has selected Crewmembers for a given mission. A valid foreign clearance is required before entering foreign airspace or proceeding into a foreign country. Information on nation-specific clearance requirements can be found in the *DoD Foreign Clearance Guide (FCG)*, located in the AOC Flight Section.

10.07 **Use of Agents** - Use of an agent in foreign nations is strongly recommended, especially when a language barrier or security threat exists. The Programs Section should arrange for agents on foreign projects, but ACs are encouraged to confirm the arrangements will meet operational needs prior to the Programs Section taking action.

10.08 **OPSEC/Security Procedures** - Security tape shall be used in accordance with Section 9.05 of this policy**.** Depending on the level and nature of NTAS alerts, additional security measures may be necessary. Information on NOAA operations security may be found online at: http://www.osec.doc.gov.

10.09 **Foreign Nationals on NOAA Aircraft** - Both the Department of Commerce Office of Security and OMAO must clear foreign nationals before they may board NOAA aircraft. Responsibility for meeting the requirements of the *Deemed Export Technology Control Program* (http://deemedexports.noaa.gov) and the Memorandum *'Foreign National Access to NMAO Facilities and Platforms',* dated 16 Mar 2006, from Director, OMAO, rest with the sponsor. The sponsor is the NOAA employee of the sponsoring program responsible for the day-to-day activities associated with the successful accomplishment of the foreign visit at NOAA (e.g. lab manager). ACs may accept written or e-mail declaration from the sponsor as assurance the above requirements have been met.

10.10 **Search and Rescue (SAR)** - Crews should determine whether the host nation has SAR assets available, and if so, how to contact them. The same should be done for possible U.S. assets that are in the area or reachable via aircraft communications (including satellite phone, X-chat, etc). A written record of the information should be kept in the aircraft and on file with the Flight Section.

10.11 **Customs, Immigration, Agriculture, and Health Inspections**

a. NOAA aircraft operate in accordance with U.S. customs regulations of *19 CFR Part 122, Air Commerce Regulations*. Practical guidance may be found in the U.S. Customs and Border Patrol *Private Flyer's Guide*, available online at: http://www.cbp.gov/xp/cgov/newsroom/publications/travel/. Foreign customs are nation-specific with information organized by country in the *FCG*. The AC shall ensure that the necessary clearance forms are completed prior to the arrival of inspectors.

b. For international flights terminating at MacDill Air Force Base, the AC shall request Customs inspections via the USAF 6th Security Forces Squadron and notify MacDill Base Operations, 813-828-4361, and the MacDill Command Post, 813-828-4361, prior to departure from an international airfield.

SECTION 11. FLIGHT DUTY LIMITATIONS.

11.01 **Fatigue** - Fatigue is a threat to the safety and effectiveness of AOC operations. The following limitations are intended to mitigate that threat. ACs shall operate within these limitations and remain aware of cumulative crew fatigue.

11.02 **Crew Duty Time**

a. Crew duty time begins when an AOC Crewmember reports to a designated place to begin preparations for a scheduled flight. On days without scheduled flights, crew duty time begins when the first AOC Crewmember reports for their workday. Crew duty time shall start no later than one hour prior to scheduled takeoff time. Crew duty time ends one hour after block time, or upon completion of post-flight duties, whichever occurs last. Travel to a deployed mission site (e.g. commercial airline, POV, GOV, etc.) is considered crew duty, but requires only eight (8) hours of crew rest after travel is complete prior to assigned duties.

b. Maximum crew duty times by aircraft are as follows:

- Multi-piloted aircraft – 16 hours
- Single-piloted aircraft – 12 hours
- Aircraft without an operative autopilot – 12 hours

11.03 **Standby Duty Time** - Anytime AOC Crewmembers are required to be available for tasking is considered standby duty time. Standby duty is considered crew duty for the purposes of crew rest requirements, regardless of whether or not a flight occurred. The Principal Investigator (PI) and the AC should plan standby duty to maximize mission availability.

11.04 **Crew Rest** - To ensure Crewmembers have had sufficient time for uninterrupted rest, meals, transportation, etc., a 12-hour crew rest period for Flight and Air Crewmembers is required between crew duty times. ACs should dictate a 'no earlier than' reporting time if crew duty time could be impacted by a Crewmember reporting early for work.

a. *Down Day* - A down day is defined as a 24-hour period in which AOC personnel are relieved from their normal duties. No meetings or briefings will be scheduled on a down day unless necessary to prepare for the next day's flight; if required, the meeting or briefing shall be no longer than 15 minutes in duration and only essential personnel, as determined by the Project Manager, AC, and PI, will be required to attend.

b. AOC personnel shall be given at least one down day during any seven consecutive work and/or standby days. Proper notification of the down day to the crew must be ensured by the Project Manager or AC at least twelve (12) hours in advance.

c. For non-mission, single-leg flights of less than four hours duration, ACs may recommend an appropriate crew rest period of less than 12 hours to the Chief, Operations Branch, for approval. Flights of this nature include: ferry flights, adverse weather repositioning and short-notice transits to a maintenance facility.

11.05 **Maximum Flying Time**

a. Flight and Air Crewmembers shall not exceed the following block time limits without a specific waiver from by the CO, AOC:

Period (Days)	*Multi-pilot Operations*	*Single-pilot Operations*
1	12	8
7	60	30
30	120	100
90	320	160
365	1200	600

b. Individuals are responsible for tracking their own flight hours and keeping management apprised of their hours status.

11.06 **Time Zone Changes** - Changing time zone disrupts circadian rhythms and can cause a marked decrease in performance. This condition is commonly referred to as jet lag. Jet lag is compounded by fatigue and is resolved by acclimation to the local time zone. Additional crew rest time may be required when traveling across multiple time zones or in other special circumstances. The AC is responsible for ensuring adequate crew rest is provided.

11.07 **Equitable Distribution of Operational Time** - The Operations Branch should schedule Flight Crewmembers so that flight time and periods of deployment are as equitably distributed, among those in the same Crewmember positions, as circumstances allow.

Appendix A

CREWMEMBER GUIDELINES AND INFORMATION

United States Department of Commerce
National Oceanic and Atmospheric Administration

Office of Marine and Aviation Operations
Aircraft Operations Center

Welcome Aboard!

1. General

The National Oceanic and Atmospheric Administration (NOAA) is a science-based agency established in 1970 as part of the U.S. Department of Commerce. NOAA's strategic mission is to describe and predict changes in the Earth's environment and to promote global environmental stewardship.

To carry out its mission, NOAA maintains a fleet of aircraft that conduct research and collect data. These aircraft operate throughout the United States and all over the world performing various missions such as hurricane research, weather reconnaissance, air-quality assessments, shoreline mapping, airport obstruction surveys, marine mammal surveys, and snowpack surveys. In addition, NOAA aircraft also support collaborative missions with other federal agencies.

These aircraft are operated, modified, and maintained by civilians and NOAA Corps officers based at the Office of Marine and Aviation Operations' Aircraft Operations Center (AOC) at MacDill Air Force Base in Tampa, Florida. FAA-certified mechanics and technicians maintain and repair the aircraft, both at AOC and in the field. AOC's scientists, meteorologists, and engineers develop, build, and operate prototype and operational scientific instrumentation on the aircraft. NOAA Corps commissioned officers fly the aircraft and collect scientific data.

2. Flight Crews

AOC designated flight crews operate all NOAA aircraft. These flight crews are trained and current in the aircraft they fly and meet all requirements of 14 CFR Part 91 and the AOC Operations Manual. Flight crews may consist of NOAA Corps officers and/or civilian employees. They all have a responsibility to provide aircraft users with the best service possible. This will always be accomplished within the constraints of safety and efficiency. In all cases, the AOC designated Aircraft Commander will be in charge during any aircraft operation.

All personnel on board NOAA aircraft are considered crewmembers or participants. The term "crewmembers" is broken down into three sub-parts:

a. Flight Crewmember – Personnel assigned to perform duties involving the operation of an aircraft in flight shall be designated as flight crewmembers upon meeting the training and qualification requirements for a specific aircraft. Flight crewmembers may hold one or more designations such as Aircraft Commander, Copilot, Flight Engineer, or Navigator.

b. Air Crewmember – Personnel assigned to perform emergency procedure duties during flight, not involving the operation of the aircraft, shall be designated as air crewmembers upon meeting training and qualification requirements for a specific aircraft. Air crewmembers may hold one or more designations such as Flight Director, Aft Observer, Crew Chief, Aerial Photographer or Electronics Technician.

c. Mission Crewmember – Personnel assigned to perform a particular function either in flight or on the ground, not directly involving the operation of the aircraft or its emergency procedures, but involving the assigned mission, shall be designated as mission crewmembers. Such positions may include Data Recorders, Mechanics, Principle Investigators, Program Managers or various non-designated mission support personnel.

3. Safety

Safety is always the first priority for AOC. If in the view of the Aircraft Commander, a flight cannot be accomplished within AOC safety guidelines or operating procedures, the flight will be altered in order to comply, or canceled. Safety is everyone's responsibility. Listen carefully to emergency briefings, use protective equipment and safety gear as instructed, and at all times obey the flight crew's instructions.

4. Medical/Physiological Requirements

There are many physiological factors that can adversely affect a person during flight. The Aircraft Commander must be informed prior to the flight of any medications being used, any SCUBA diving performed in the 24 hour period prior to flight, any colds, sinus or respiratory problems, or any other physical problems or medical conditions currently being experienced. If any questions arise regarding fitness for flight, a Flight Surgeon or the NOAA Health Services Staff will be consulted. All AOC crewmembers are required to pass a periodic FAA medical examination as described in the AOC Operations Manual. In addition, it is strongly recommended that all personnel who fly aboard AOC aircraft obtain an FAA Class III medical examination or equivalent. There are also flight physiology and water survival training courses available to NOAA. These courses are required for all flight crew and air crew members and recommended for mission crew members.

5. Crew Rest

To ensure a high level of physical and mental performance during flight operations, AOC crewmembers are required to observe a 12-hour crew rest period prior to reporting for flights. AOC strongly recommends that all non-AOC personnel follow the same crew rest policy. Aircraft Commanders may prevent anyone from flying that could endanger themselves or others.

6. Alcohol

Crewmembers scheduled to fly (or personnel who have preflight duties) are prohibited from consuming alcoholic beverages within 12 hours of scheduled takeoff time. Any crewmember or passenger, who, in the opinion of the Aircraft Commander, is under the influence of alcohol, will not be permitted to board, nor will they be permitted to work on or around the aircraft.

7. Critical Phases of Flight

Personnel shall limit talking on the internal communications system (ICS) during critical phases of flight. Critical phases of flight are defined as all operations involving engine start, taxi, takeoff, approach, and landing, as well as flight operations conducted below 500 feet or in severe weather. Personnel shall not engage in, nor shall the Aircraft Commander permit, any activity during a critical phase of flight which could distract the flight crew from the performance of their duties or which could interfere in any way with the proper conduct of those duties.

8. Hazardous Materials

The Aircraft Commander must be made aware of any hazardous materials brought aboard the aircraft as part of personal or mission related gear. If any doubt exists about the hazard potential of any chemicals, compressed gasses, flammable materials or explosive substances the AOC Safety Staff will be consulted. Many common items, such as glues, paints, or oils can unknowingly present a hazard, especially when in the confined space of an aircraft cabin or when purified breathing oxygen is in use.

9. Smoking

Smoking is prohibited at all times aboard AOC aircraft. Smoking is also prohibited within 50 feet of aircraft on the ground, or within 100 feet of aircraft on the ground during fueling operations.

10. Weight and Loading

The weight and location of mission equipment and personal belongings can significantly affect aircraft performance. The placement of all gear must be approved by the Aircraft Commander. Please keep personal gear to a minimum as much as practical. Weight limitations will vary between aircraft and missions, but normally personal belongings should not exceed 50 pounds per crewmember. This amount may be substantially less on smaller aircraft. Check with the Aircraft Commander prior to the mission to ensure the aircraft can accommodate your gear.

Appendix B

DISCLOSURE FOR PERSONS FLYING ABOARD FEDERAL GOVERNMENT AIRCRAFT

NOTE: The disclosure contained herein is not all-inclusive. You should contact your sponsoring agency for further assistance.

Generally, an aircraft used exclusively for the U.S. Government may be considered a 'public aircraft' as defined in 49 U.S.C. 40102 and 40125, unless it is transporting passengers or operating for commercial purposes. A public aircraft is not subject to many Federal aviation regulations, including requirements relating to aircraft certification, maintenance, and pilot certification. If a U.S. Government agency transports passengers on a Government aircraft, that agency must comply with all Federal aviation regulations applicable to civil aircraft. If you have questions about the status of a particular flight, you should contact the agency sponsoring the flight.

You and your family have certain rights and benefits in the unlikely event you are injured or killed while riding aboard a Government aircraft. Federal employees and some private citizens are eligible for workers' compensation benefits under the Federal Employees' Compensation Act (FECA). When FECA applies, it is the sole remedy. For more information about FECA and its coverage, consult with your agency's benefits office or contact the Branch of Technical Assistance at the Department of Labor's Office of Workers' Compensation Programs at (202) 693-0044. (These rules also apply to travel on other Government-owned or operated conveyances such as cars, vans, or buses.)

State or foreign laws may provide for product liability or ``third party'' causes of actions for personal injury or wrongful death. If you have questions about a particular case or believe you have a claim, you should consult with an attorney.
Some insurance policies may exclude coverage for injuries or death sustained while traveling aboard a Government or military aircraft or while within a combat area. You may wish to check your policy or consult with your insurance provider before your flight. The insurance available to Federal employees through the Federal Employees Group Life Insurance Program does not contain an exclusion of this type.

If you are the victim of an air disaster resulting from criminal activity, Victim and Witness Specialists from the Federal Bureau of Investigation (FBI) and/or the local U.S. Attorney's Office will keep you or your family informed about the status of the criminal investigation(s) and provide you or your family with information about rights and services, such as crisis intervention, counseling and emotional support. State crime victim compensation may be able to cover crime-related expenses, such as medical costs, mental health counseling, funeral and burial costs, and lost wages or loss of support. The Office for Victims of Crime (an agency of the Department of Justice) is authorized by the Antiterrorism Act of 1996 to provide emergency financial assistance to state programs, as well as the U.S. Attorney’s Office, for the benefit of victims of terrorist acts or mass violence.

If you are a Federal employee:

1. If you are injured or killed on the job during the performance of duty - including while traveling aboard a Government aircraft or other government-owned or operated conveyance for business purposes, you and your family are eligible to collect workers' compensation benefits under FECA. You and your family may not file a personal injury or wrongful death suit against the United States or its employees. However, you may have cause of action against potentially liable third parties.

2. You or your qualifying family member must normally also choose between FECA disability or death benefits, and those payable under your retirement system (either the Civil Service Retirement System or the Federal Employees Retirement System). You may choose the benefit that is more favorable to you.

If you are a private citizen not employed by the Federal Government:

1. Even if you are not regularly employed by the Federal Government, if you are rendering personal service to the Federal Government on a voluntary basis or for nominal pay, you may be defined as a Federal employee for purposes of FECA. If that is the case, you and your family are eligible to receive workers' compensation benefits under FECA, but may not collect in a personal injury or wrongful death lawsuit against the United States or its employees. You and your family may file suit against potentially liable third parties. Before you depart, you may wish to consult with the department or agency sponsoring the flight to clarify whether you are considered a Federal employee.

2. If there is a determination that you are not a Federal employee, you and your family will not be eligible to receive workman's compensation benefits under FECA. If you are traveling for business purposes, you may be eligible for workman's compensation benefits under state law. If the accident occurs within the United States, or its territories, its airspace, or over the high seas, you and your family may claim against the United States under the Federal Tort Claims Act or Suits in Admiralty Act. If you are killed aboard a military aircraft, your family may be eligible to receive compensation under the Military Claims Act, or if you are an inhabitant of a foreign country, under the Foreign Claims Act.

Appendix C

Acknowledgment and Release

Name: _____ **Tail Number: N _____ RF**

Effective Dates: _____ **to:** _____

Emergency Point of Contact: (name, address, phone number)

_____

____ *(initial) I have met the training requirements as per NAO 209-124, NOAA Aviation Safety Policy*

____ *(initial) I acknowledge that I am in observer status per NAO 209-124, NOAA Aviation Safety Policy*

This Acknowledgment and Waiver between the National Oceanic and Atmospheric Administration (NOAA) Aircraft Operations Center (AOC) and the above named participant establishes the basis on which the participant will be carried on board a NOAA aircraft during an operational mission.

Public Law 103-411, as interpreted by Federal Aviation Administration (FAA) Advisory Circular (AC No. 1-1), limits the extent to which government aircraft can be used without complying with certain certification and other safety requirements that apply to "civil aircraft." Under the law, the aircraft must be engaged in a "governmental function" and may transport only persons whose presence is required to perform, or is associated with the performance of, that function.

During the time period delineated above, the aircraft will be engaged in flight operations to accomplish a governmental function. The parties agree that the participant's role is associated with and will otherwise further the mission of the aircraft. Furthermore, the parties agree that if the participant is involved in the production of written article(s), audiovisual production(s) and/or other form(s) of communication, that such communication is associated with and will otherwise further this mission by advancing public awareness, information and/or education. The parties agree that this role cannot adequately be carried out unless the participant is carried aboard the aircraft.

NOAA reserves a royalty free, nonexclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use the article(s), audiovisual production(s) or other materials that result from this mission for Federal Governmental purposes.

The participant affirms that he/she has read the AOC Crewmember Guidelines And Information, and that the Aircraft Commander will be advised prior to flight of any potentially relevant illness or medical condition, including but not limited to scuba diving within 24 hours prior to any flight, consumption of alcohol within 12 hours prior to any flight, any medications taken within 24 hrs of the flight, or any existing cold, sinus, or respiratory problem.

_____ _____

Signature ***Date***

The following release is applicable only to non-Federal Government employees: The participant further acknowledges the risks associated with this mission and agrees to hold the Government, its officers, agents and employees harmless for liability of any kind, including costs and expenses for or on account of any or all suits or damages of any character whatsoever resulting from injuries or participation on this flight.

_____ _____

Signature ***Date***

SECTION 4. AUTHORITY.

4.01 AOC's scope of authority and functions are established under the U.S. Department of Commerce (DOC) NOAA, Office of Marine and Aviation Operations (OMAO) as described in *Department Organization Orders (DOO) 10-15 and* 25-5 respectively, and *OMAO Policy 1102, Marine and Aviation Operations Centers (MAOC) Operational Plans and Procedures.*

4.02 NOAA manned aircraft are public aircraft, as defined by 49 *U.*S.C. When conducting public aircraft operations, NOAA aircraft are not subject to the Federal Aviation Regulations (FAR), except for those prescribed under the authority of 49 *U.*S.*C.,* pertaining to the use of airspace, the control of air traffic, and aircraft registration. However, NOAA aircraft shall be operated and maintained in accordance with all pertinent regulations set forth by the Federal Aviation Administration (FAA), the Department of Defense (DOD), the aircraft manufacturer and AOC, unless a deviation is approved by the Commanding Officer (CO), AOC .

4.03 For the purposes of this manual, the term "NOAA Aircraft" means any aircraft or UAS used and operated exclusively in the service of AOC, and includes aircraft owned, leased, rented, under military bailment, or otherwise in possession of AOC for the purpose of flight or ground test. Distinctions between manned and UAS operations are contained in the applicable Aircraft Operations Manual sub-policies.

SECTION 5. COMPLIANCE.

5.01 AOC personnel shall be familiar with and comply with the requirements set forth in the following documents, programs and regulations:

- Aircraft Operations Manual
- Applicable Aircraft Flight Manual(s) (AFM)
- Applicable FARs
- AOC Safety Manual and Safety Procedures
- AOC Training Manual
- Applicable Aircraft Standard Operating Procedure(s) (SOP)
- AOC Maintenance Operating Instructions
- AOC Alteration and Instrumentation Program
- AOC Operational Risk Management (ORM) Program and Assessments
- AOC Administrative Orders (AAO), and
- NOAA Administrative Orders (NAO) 216-104 and 209-124

5.02 In the event of conflict between any of the above regulations, the more restrictive regulation or procedure shall apply.

SECTION 6. WAIVER REQUESTS.

6.01 Crewmembers shall not be scheduled for or engage in aviation activities unless they satisfy the requirements of this manual. Unless otherwise stated in this manual, requests for waivers to these procedures, standards, and requirements may only be approved by the CO, AOC or his/her designated representative. Waivers shall be requested in writing and forwarded through the Chief, Operations Branch, to the CO, AOC. Waivers are intended to allow flight operations under specific, rapidly emerging or temporary conditions, as opposed to amending normal procedures.

SECTION 7. DISTRIBUTION.

7.01 An updated copy of the Aircraft Operations Manual shall be available on AOC's Local Area Network (LAN), also known as AOC's SharePoint, and will be maintained by the Flight Section. Aircraft Commanders (AC) are responsible for ensuring an updated copy of this manual is onboard their aircraft prior to flight.

SECTION 8. REVISIONS.

8.01 Approved revisions to this manual will be promulgated as required by the Chief, Operations Branch. Each revision will be identified by a vertical bar in the left margin adjacent to the affected text. Suggestions for revision should be routed to the Chief, Operations Branch, through an individual's supervisory chain of command. The CO, AOC, has final approval authority for any Aircraft Operations Manual changes.

SECTION 9. WORDING.

9.01 The following definitions apply to terms used in this manual:

- 'Shall' or 'must' means the procedure or standard is mandatory.
- 'Should' means the procedure or standard is recommended.
- 'May' or 'need not' means the procedure or standard is optional.
- 'Will' means futurity of action only and does not indicate any degree of requirement for application of a procedure or meeting of a standard.

9.02 Wording such as ‘normally,’ ‘etc.,’ ‘usually’ and ‘such as’ is employed throughout this manual; however, clauses containing wording of this nature shall not be exploited. The 'use of masculine pronouns’ is to be construed as inclusive of both male and female gender.

SECTION 10. AIRCRAFT FLIGHT MANUALS (AFM).

10.01 The manufacturer's FAA approved AFM or DOD Operating Manual, i.e. Naval Aviation Training and Operating Procedures Standardization (NATOPS), shall govern the operation of each NOAA aircraft. Aircraft specific SOP and this Aircraft Operations Manual shall take precedence over an AFM or NATOPS should a conflict exist.

SECTION 11. STANDARD OPERATING PROCEDURES.

11.01 SOPs:

- Shall be issued for each AOC aircraft type.
- Will contain detailed procedures and operating limitations which are different from or not covered in the AFM.
- Will authorize the use of appropriate AFMs, AOC normal and emergency checklists, Minimum Equipment Lists (MEL), Flight Standards Manuals and any other pertinent instructions for that specific aircraft type and mission.
- Will be written by the appropriate Instructor Pilot, in concert with AOC's Chief, Safety, Standardization and Training.
- Will be routed through the Chief, Operations Branch, for concurrence and signed by the CO, AOC.
- Will be distributed by AOC's Chief, Safety, Standardization and Training, to all Flight and Air Crewmembers assigned to the aircraft.
- Shall be reviewed annually and any changes will be routed via the above process.