Goddard Space Flight Center
Wallops Flight Facility

Aircraft Office
Mission Anomaly and Mishap Contingency Plan

Author:

Original signed by Mark Russell 4/9/2012

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Approval:

Original signed by Shane Dover 4/9/2012

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Shane Dover   **Date**
Chief, Aircraft Office

Mission Anomaly & Mishap Contingency Plan   *830-MAMC-0001*

CHANGE RECORD SHEET

ISSUE	DATE OF RELEASE	REASONS FOR REVISION	APPROVAL
01	Apr 2012	Original Issue	**Shane Dover**

CONTENTS

1.0   PLAN CLASSIFICATION

This document is to be treated as sensitive but unclassified (SBU) when information specific to an on-going mishap investigation is included.

2.0   INFORMATION

This document satisfies the requirement for an Aircraft Mishap Contingency plan as outlined in the NPR 8621.1B "NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating and Recordkeeping" and GPR 8621.4 "GSFC Mishap Preparedness and Contingency Plan."

3.0   PROGRAM/PROJECT ROLES AND RESPONSIBILITIES

This program pre-mishap plan establishes the actions, along with assigned responsible personnel, required to effectively and safely respond, investigate and report findings of an aircraft mishap involving NASA aircraft assigned to and managed by the NASA GSFC Aircraft Office, Code 830, at NASA's Wallops Flight Facility (WFF).

The pre-mishap plan is developed under the authority of NPR 8621.1 and it details requirements for mishap response and procedures in the event of an aircraft mishap for GSFC's WFF aircraft. This program pre-mishap plan carries the actions to the point that the event has been rendered safe and is turned over to the investigating authority.

As aircraft are added/deleted or program requirements and equipment changes occur, this plan shall be reviewed and appropriate changes incorporated. Since it is difficult to cover all of the various situations that may arise during aircraft emergencies, this plan shall not restrict in any way the use of good judgment by the on-scene commander.

All roles and responsibilities of individuals are in accordance with GPR 8621.4 with following additions:

3.1   The GSFC Aircraft Program Office Chief will:

a. Ensure compliance with NPR 8621.1 and GPR 8621.4 and the Aircraft Office MAMCP during all mishap and close call investigations.

b. Notify the National Transportation Safety Board (NTSB) in the event of a mishap or close call involving aircraft IAW GPR 8621.4.

c. Serve as the informational liaison between the Aircraft Program Office and the Wallops Flight Facility Safety Office, Code 803, during all investigations.

3.2   The GSFC Aviation Safety Officer will:

a.   Serve as the Aircraft Program Office representative as either a member of the IRT or an informational liaison to the IRT or the MIB.

b. Provide support as required in all facets of mishap investigation (site securing, debris collection, documentation, Data and Equipment Impoundment and any aviation relevant information procurement) to the IRT or MIB.

c. Track the preparation of, completion of, and routing of the Mishap Investigation Report.

d. Ensure the implementation of any Corrective Action Plans associated with the mishap investigation report findings.

4.0   PROGRAM/PROJECT DESCRIPTION

NASA GSFC WFF uses a Lockheed Martin P-3 and the C-23 Sherpa as flying science laboratories, a commercially certificated King Air B-200 and Unmanned Aerial Systems to carry out mission requirements.

The P-3 flies three primary types of missions: sensor development, satellite sensor verification and basic research studies of the Earth's surface and atmosphere. The NASA P-3 is a four-engine turbo-prop aircraft that was previously owned by the US Navy which has been highly modified to support the Agency's Airborne Science mission. The aircraft is 116' in length and 100' wingspan it has a payload capacity of 14,700 pounds and is over 100,000 pounds in gross weight.

The C-23B Sherpa primary science mission is to support the Earth Venture CARVE mission in addition to cargo and personnel movement. The NASA C-23 is a two-engine turbo prop aircraft that was previously owned by the US Army and is multi-mission capable due to its large hydraulically powered aft cargo door. The aircraft is 58' in length, has a 74'10" wingspan and a payload capacity of 7200 pounds with a maximum gross takeoff weight of 27,100 pounds.

The Beechcraft Model 200 Super King Air is powered by two 850 SHP (Shaft Horse Power) Pratt & Whitney turboprop engines, the Super King Air 200 can cruise at speeds over 300 MPH. The cabin can carry up to 8 passengers. The aircraft has a gross weight of over 12,500 pounds and has a payload capacity of 1600 pounds.

GSFC WFF also typically launches Unmanned Aerial System vehicles (UAS) from the south end of Wallops Island and operations remain inside of the restricted areas off WFF. A UAS is a powered aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, and can fly autonomously or be piloted remotely. UASs vehicles (UAV's) range from micro vehicles measuring inches in size and ounces in weight to large aircraft weighing more than 30,000 pounds. All UAS shall be operated to meet the requirements of this NPR. Depending upon the UAS capabilities, Center Directors and Chiefs of Flight Operations have the authority to determine the appropriate level of oversight. Small UAV's that operate only within the radio control (RC) interface environment and below the FAA model aircraft-

defined altitude of 400 feet require oversight and control that are particular to the Center from which they operate. Center guidance defines the appropriate level of control and oversight for each category of UAS.

5.0   SIGNATURE REQUIREMENTS

The Aircraft Office at Wallops Flight Facility (Code 830) is a subordinate program of the Goddard Space Facility Center (GSFC) Suborbital and Special Orbital Programs Directorate (SSOPD). For this reason, the individuals responsible for the NASA 830 aircraft in ascending order are the Chief of the Aircraft Office, the SSOPD Manager, Goddard Center Director, the Mission Directorate Associate Administrator, and finally the Assistant Administrator for the Office of Strategic Infrastructure (OSI).

6.0   PURPOSE AND APPLICABILITY

6.1   Purpose

In accordance with NPR 8621.1B, NASA Procedures and Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping, this document contains requirements for classifying mishaps, establishing investigation authorities, and performing investigations. It formalizes notification, analysis, and reporting obligations; describes roles and responsibilities at GSFC WFF. A proper response to an aircraft mishap requires documented preplanning to mitigate risk to personnel and property. A pre-mishap plan must be tailored to local needs and capabilities, and be developed and coordinated with all supporting and supported activities or agencies.

Comments and questions concerning the contents of this plan should be addressed to the Aircraft Office, Code 830, Wallops Flight Facility, Wallops Island, Virginia 23337. This is a controlled plan and will be reviewed annually and revised by page changes when necessary.

6.2   Applicability

This plan applies to Goddard Space Flight Center (GSFC) WFF personnel, as well as to other NASA support personnel, contractors, and business partners, in accordance with cooperative agreements and contractual requirements.

7.0   PROGRAM/PROJECT PROPERTY

The Aircraft Office at Wallops Flight Facility, GSFC, are custodians of one P3 Orion, three C-23B Sherpas and one B-200 Beechcraft as flyable assets, and three P3C Orion aircraft and one C-23B Sherpa in variable stages of long term preservation/storage. Additionally, the office possesses ground support equipment (GSE), parts and tools required for routine maintenance and operation of its aircraft. The Aircraft Office is located in Hangar N-159 and is the primary custodian of the contents of the hangar.

8.0   HOST CENTER INFORMATION

The Aircraft Office at Wallops Flight Facility (Code 830) is a subordinate program of the Goddard Space Flight Center (GSFC) Suborbital and Special Orbital Programs Directorate (SSOPD). GSFC has eight directorates assigned to the center. The SSOPD is Directorate 800, located exclusively at Wallops Flight Facility. There are seven sub-directorate programs in SSOPD, of which the Aircraft Office is one.

9.0   TEST INFORMATION

All airborne science research aircraft operated by code 830 (Aircraft Office) at Wallops Flight Facility, GSFC are routinely subject to engineering modifications to support changing mission requirements or parameters. These modifications are accounted for an addressed through safety controls measures that been implemented IAW the NPR 7900.3C, "Aircraft Operations Management Manual." In specific terms, each modified airframe undergoes an Air Worthiness Flight Safety Review Board (AFSRB), an Engineering Check Flight (ECF), and a Program Check Flight (PCF) prior to conducting actual missions.

For large modifications and/or deployment of our science aircraft, a formal addition to this section of the Mishap Contingency Plan will be included to address "differences" which could be of special consideration during a mishap investigation.

10.0   SIMULATIONS AND EXERCISES – MANDATORY SCHEDULE

The Aviation Safety Officer and representatives from the Range and Mission Management Office, Aircraft Office, and Safety Office shall review this plan at least annually to ensure the integrity and effectiveness. They shall make recommendations for corrective action or changes to this plan when and where necessary to ensure a realistic and workable plan of action.

At least one yearly drill shall be conducted by the Safety Office to test and evaluate the ARFF teams. The On-Scene Commander shall conduct a review within 2 hours after completion to identify improvements. Actual responses may be used in place of a drill at the discretion of the Emergency Preparedness Coordinator.

There shall be a debriefing conducted within 48 hours after each mishap to review the effectiveness and the implementation of this plan. All personnel involved in the incident shall participate in the debriefing.

11.0   AUTHORITIES AND REFERENCES

NPR 8621.1: NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping

NPR 7900.3: Aircraft Operations Management Manual

GSFC NASA Aircraft Mishap Response Plan, GSFC 840-PLAN-0001.

GSFC WFF NASA Fire Department Operating Guidelines

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GPR 8621.4: Mishap and Close Call Investigation

GPR 8621.2: Processing Mishap and Close Call Reports

840-HDBK-002: WFF UAS User's Handbook

NPG 8715.3: NASA Safety Manual

12.0   PROCEDURES FOR MISHAP RESPONSE

12.1   Priorities

The priorities for the initial response to a mishap are;

1. Protect Human Life
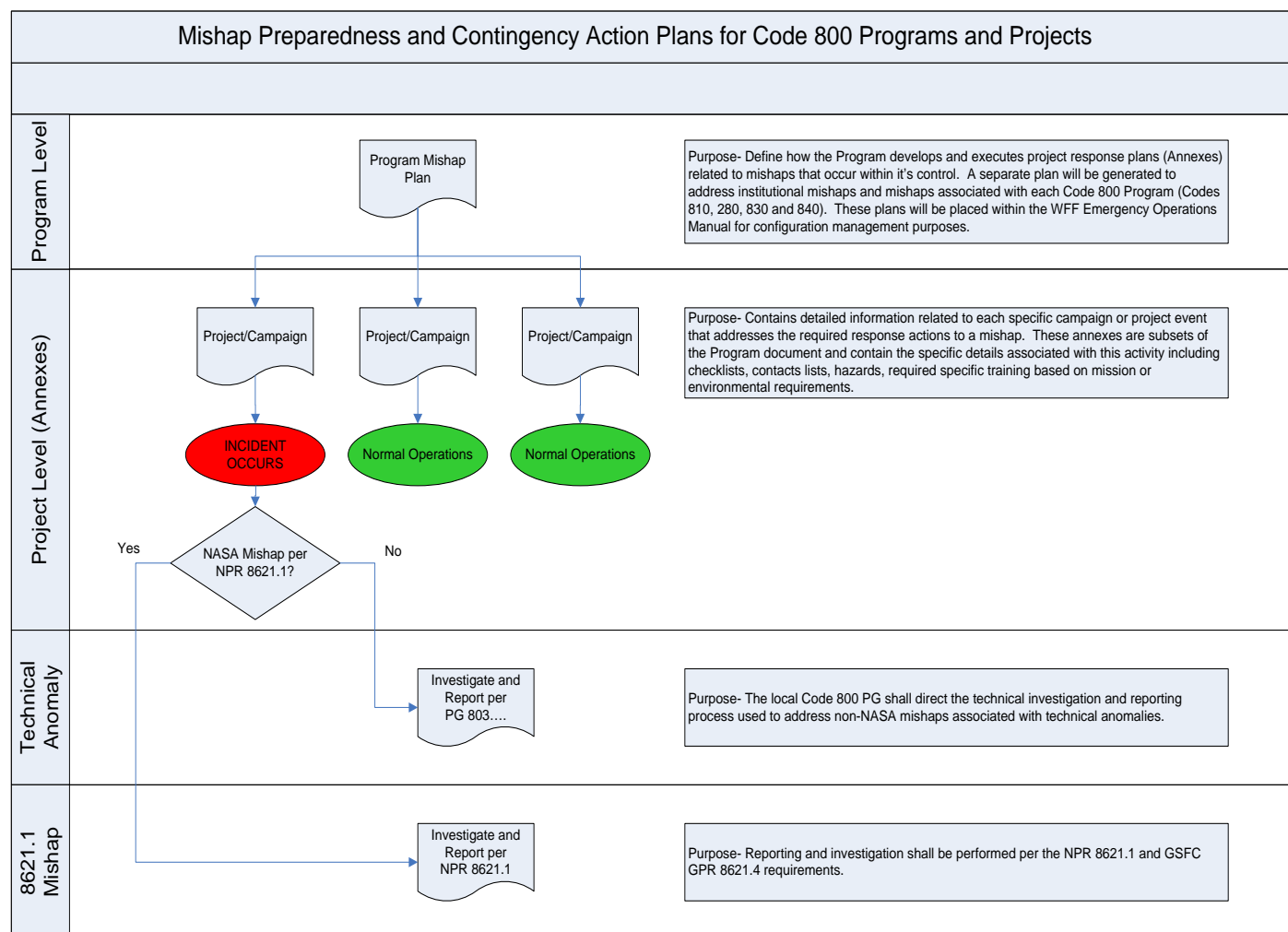2. Protection of resources
3. Preserving evidence
4. Timely reporting

First responders at WFF will follow appropriate rescue guidelines for initial response to protecting human life.   The Appendix section is provided for each organization within WFF and that have specific responsibilities in the event of a mishap. Each step in the checklist is preceded by the level of mishap to which the step applies.

12.2   Flow Plan for Mission Mishap Response and Reporting

The following diagram represents the Code 800 program response, of which Code 830, the Aircraft Office is part. The uniqueness of aircraft mishaps requires necessary differences. These are annotated throughout this document, however the flow chart below is still applicable for response and reporting.

Mishap Preparedness and Contingency Action Plans for Code 800 Programs and Projects

Program Level

Program Mishap Plan

Purpose- Define how the Program develops and executes project response plans (Annexes) related to mishaps that occur within it's control. A separate plan will be generated to address institutional mishaps and mishaps associated with each Code 800 Program (Codes 810, 280, 830 and 840). These plans will be placed within the WFF Emergency Operations Manual for configuration management purposes.

Project Level (Annexes)

Project/Campaign   Project/Campaign   Project/Campaign

Purpose- Contains detailed information related to each specific campaign or project event that addresses the required response actions to a mishap. These annexes are subsets of the Program document and contain the specific details associated with this activity including checklists, contacts lists, hazards, required specific training based on mission or environmental requirements.

INCIDENT OCCURS   Normal Operations   Normal Operations

Yes   NASA Mishap per NPR 8621.1?   No

Technical Anomaly

Investigate and Report per PG 803….

Purpose- The local Code 800 PG shall direct the technical investigation and reporting process used to address non-NASA mishaps associated with technical anomalies.

8621.1 Mishap

Investigate and Report per NPR 8621.1

Purpose- Reporting and investigation shall be performed per the NPR 8621.1 and GSFC GPR 8621.4 requirements.

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12.3   General Response to Aircraft Mishap

  See Annex C for specific initial response in documenting and determining type of Class Mishap.

1. Ensure Fire and Rescue personnel are at the mishap site - Save lives First! Call 911. Ensure fire & rescue personnel are notified immediately and are verified to be on site saving lives and preventing further damage.
2. Ensure Security personnel are at the mishap site - Duties are: keep unauthorized personnel away from rescue efforts, protect the site/equipment from further damage, and preserve evidence. Wear PPE at the mishap site.
3. Deploy an initial response team (IRT), if appropriate –Refer to Section 12.4.
4. Make Initial Notifications (See Annex B)
5. Ensure Safety at Mishap Site – Ensure the mishap site is safe. Hazards should be briefed to all personnel at the mishap site. Make sure appropriate PPE is used. Make a log entry for every person who enters the site. Hazards could be chemicals, explosives, radioactive, biological, fuel, pressure vessels, compressed air, batteries, hydraulics, accumulators, igniters, oxygen bottles, fire bottles, flares, chutes, composites, and tires.
6. Photographic/Video Support – Take lots of photo/video from various angles to include airborne if possible. Photos should be repeated as the scene will change over time or when items are moved, potentially revealing new evidence. Document and videotape ground scars and the actual moving/recovery operations.
7. Release of Information (See NASA NPR 8621.1 Section 3.10)
    a. Next of Kin Notification – Make sure this step happens before any public release of information. Notification by appropriate senior management assisted by aviation personnel & life crisis professionals.
    b. Press Release – ASO or IRT lead will provide initial info through NASA WFF management to PAO for release to public. Release shall be coordinated with program business partners, if applicable.
8. Witness Statements/Interviews – Write down a list of witnesses. Include their name, address, phone numbers, & emails. Review NPR 8621.1 guidance before interviews. Gather written personal (not group) statements from witnesses and all individuals involved as soon as possible.
9. Wreckage Diagram – Make a diagram before things are moved. Tag, photograph, and log (to include location coordinates) of all items. Computer/graphic support will help. Walk runways for items of evidence before movement of anything. Spray paint locations, if necessary, before key items are moved.
10. Impound Data – Refer to Section 12.6.
11. Drug Testing – See NPR 8621.1. Any mishap over $10K of damage requires that supervisors should initiate drug testing for appropriate personnel involved in the mishap. Provide an escort for personnel to testing facility.
12. Airport Closure – Ensure a decision is made regarding whether to suspend flight operations or a portion of the flight operations at the mishap airport, as well when to re-open. Consider location of nearest suitable alternate.
13. Aircraft removal/recovery from mishap site/runways – The On-scene Commander and/or the Lead Investigator must approve the removal of all mishap equipment.

Depending on the severity of the mishap, additional time and resources may be required to remove the aircraft from the mishap site/runways and recover it.

14. Suspension of safety critical duties – Consideration should be given to temporarily suspending safety critical duties for personnel involved in a class A or B mishap.

12.4   IRT Training and Membership Requirements

GSFC shall maintain an IRT in accordance with this document GPR 8621.4. IRT members will function in various roles following a mishap until the investigation is turned over to an investigation authority. The IRT will be formed based on the nature of the mishap and may consist of any of the following roles:

a. IRT Lead – Civil servant in charge of all IRT activities. Assumes control of mishap site from Incident Commander and remains in control of scene and evidence. Maintains control of evidence/data;

b. Deputy IRT Lead – Civil servant in charge of IRT activity coordination in the absence of the IRT lead;

c. Mishap Scene Security Coordinator – Individual designated to ensure that the mishap scene is secured after the mishap occurs. This will usually be a member of the Protective Services Division;

d. Written Witness Statement Coordinator – Civil servant designated to coordinate the process of having identified persons fill out witness statements of the incident and/or events leading up to it;

e. Handling and Impoundment Coordinator (HIC) – Civil servant designated to coordinate all activities pertaining to hardware, documentation and debris impounding. The individual designated to be in charge of secure storage for impounded material;

f. Chain of Custody Custodian – Civil servant designated to coordinate the securing of sensitive and personal items of injured or ill victims of a mishap;

g. Photographic Support – Individual designated to take official pictures of the scene and debris sites;

h. Office of Communications Advisor – Individual from the Office of Communications that will release mishap related information to the public. Responsible for responding to media/press releases or inquiries; and

i. Office of Chief Counsel Advisor – Individual from the Office of Chief Counsel that will advise the IRT on legal matters pertaining to the mishap.

All members of the IRT shall be trained based on their designated task(s) upon assignment to the IRT.

All IRT members shall receive the following training:

a. National Incident Management System Online Training (IS-100). This training can be accessed at the following URL: http://training.fema.gov/EMIWeb/IS/IS100A.asp,

b. The following mishap SATERN Courses: Overview of Mishap Investigations (SMA-002-07), Mishap Investigation Roles and Responsibilities (SMA-002-08), Completing the Investigation and Mishap Report (SMA-002-09), and Root Cause Analysis (SMA-002-10);

c. Blood-Borne Pathogens (SATERN);

d. NASA IRT Course;

e. NASA IRT Video "Interim Response Team, Investigating an Accident"; and

f. Familiarization with this GPR.

12.5   Mishap Debris collection process AND DATA/EQUIPMENT IMPOUNDMENT

The Handling and Impoundment Coordinator (HIC) , a Civil servant, is designated to coordinate all activities pertaining to hardware, documentation and debris impounding. The individual also designated to be in charge of secure storage for impounded material. Until the

HIC arrives on scene, only the IRT Lead, the Chief of the Aircraft Office, the ASO or a representative assigned by one of these three individuals may impound and store materials related to a Mishap investigation.

Ground support equipment, test equipment and flight hardware involved in a mishap or high visibility close call shall be secured and subject to impoundment. Pertinent data shall also be subject to impoundment. All items shall be tagged and cataloged prior to impoundment. Examples of data subject to impoundment include but are not limited to the items shown below:

a.   check-out logs;
b.   test and check-out record charts;
c.   launch records;
d.   weather information;
e.   telemetry tapes;
f.   audio and video tapes;
g.   time cards;
h.   training records;
i.   inspection records;
j.   problem reports;
k.   notes;
l.   e-mail messages;
m. automated log-keeping systems and procedures;
n.   computer data and databases;
o.   audio/video media that records the events;
p.   maintenance records/work orders;
q.   design drawings (e.g., facilities, equipment, spacecraft);
r.   spacecraft and launch readiness data packages;
s.   spacecraft team personnel records (training, time cards, certifications);
t.   configuration-controlled presentations, documents, drawings, Work Order Authorizations, etc;.
u.   photographic and video graphic records for the building, integration, and testing of the flight hardware (spacecraft and components);
v.   science instrument design drawings (e.g., equipment, facilities);
w.   science instrument team personnel records (training, time cards, certification);
x.   assembly, integration and operational procedures that were used;
y.   instrument and telemetry data; and
z.   Mission Operations Control Center data.

12.5.1 DEBRIS COLLECTION WITHIN THE UNITED STATES

a. If the NTSB intervened to conduct the investigation, NASA would coordinate with NTSB to disposition the aircraft debris after the NTSB completes their investigation. All hazards will be safe prior to transport.

b. All debris will be photographed, numbered, and described at the mishap scene prior to preparation for transportation.

c. A debris log will be maintained that states at a minimum the debris item number, name, description, date found, location found, and current status (e.g., transport, holding facility) The debris log and individual tags are contained in the Mishap Response kit.

d. Once the investigation authority has been convened, the Chairman of the Mishap
Investigation Board will oversee the debris collection activity.   WFF Aircraft Chief, Code
830, will coordinate activities between the P-3 Project and the investigation authority for
debris collection and final disposition.

12.5.2 International Debris Collection Process

The Convention on International Civil Aviation Organization (ICAO) defines the protocols for
air accident investigation followed by transport safety authorities in signatory countries. Debris
collection personnel will initially be selected from non-incident involved personnel deployed on
site.

12.6   Informational Technology Support

The IRT shall obtain support from an information technology (IT) professional to support
the collection, maintenance, and security of IT data that has been impounded and collected. No
one except a trained IT professional may remove data from servers and/or encrypted files. When
the investigation is transitioned from the IRT to the Investigating Authority, the IT professional
shall continue his/her support as needed.

12.7   Personal Effects Chain of Custody

The Chain of Custody Custodian, a Civil servant assigned to the IRT is designated to
coordinate the securing of sensitive and personal items of injured or ill victims of a mishap. The
chain of custody process shall be used for all impounded articles, including but not limited to,
personal effects and sensitive information related to injured or deceased individuals. The IRT
Chain of Custody Custodian shall be responsible for the tagging, securing and release of the
impounded items.

12.8   Procedure of an On-Station Aircraft Mishap Before/After Normal Work Hours

All NASA and other scheduled project aircraft shall be provided ARFF support services
at all times. Should a crash occur after normal work hours, the Aircraft Crash Recall Roster
(Annex B) shall be activated by the Duty Desk Watch to arrange for support services.
Crashes during off-duty hours shall be handled similar to normal hours except that the
Fire Station Duty Desk Watch (301 342-1095) shall initiate the Aircraft Crash Recall Roster. The
Emergency Command Post should generally be established in Bldg. B-129 for an after hour's
event.

12.9   Procedures for Contacting Other Government Agencies As Necessary During Class A and Class B Mishap Investigations

For Mishap investigations that require coordination or assistance from other Government
agencies (ie. NTSB, DoD, FEMA) utilize ANNEX B for contact information at the end of this
document.

13.0   PROCEDURES FOR PROCESSING MISHAP AND ANOMALY REPORTS

All mishap reporting procedures will be conducted in accordance with NPR 8621.1B, "NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping". This includes sending the final NASA mishap report to the NTSB for any mishap involving aircraft (NPR 8621.1B, 6.5.7).

Corrective action plans (CAP) will also be developed, submitted and executed in accordance with NPR 8621.1B. All Mishap Reports and Corrective Action Plan development, review, endorsement, release and implementation related to the Aircraft Office (Code 830) of the GSFC shall be initiated, tracked and implemented by the Code 830 ASO unless directed otherwise by higher authority.
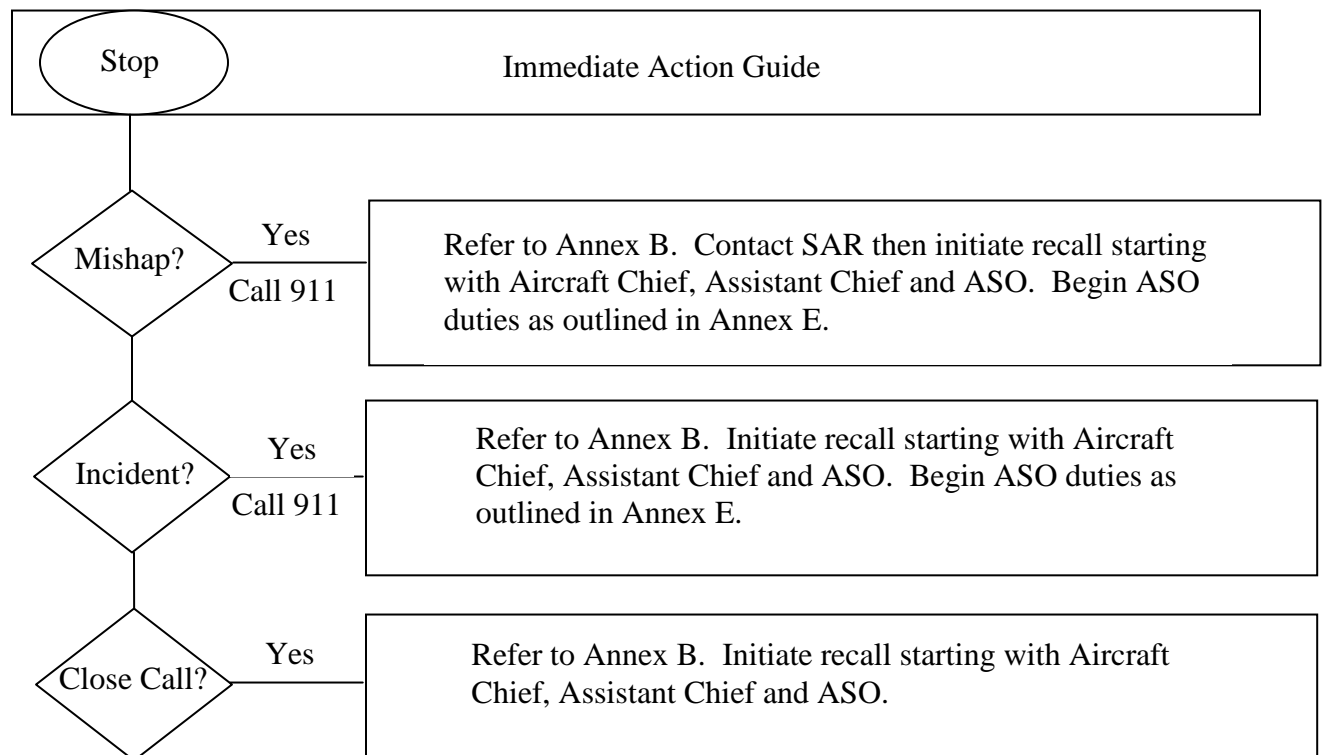
14.0   EXTERNAL RESOURCES AND SUPPORT

See Annex C for the deployed site specific contact information. Since each site is unique, the relevant information will need to be complied and recorded in a case-by-case manner. This is the responsibility of the designated Mission Manager for the deployed project.

ANNEX A

In the event of an Aircraft Mishap, call

911

| Stop | Immediate Action Guide |

Mishap? — Yes / Call 911 → Refer to Annex B. Contact SAR then initiate recall starting with Aircraft Chief, Assistant Chief and ASO. Begin ASO duties as outlined in Annex E.

Incident? — Yes / Call 911 → Refer to Annex B. Initiate recall starting with Aircraft Chief, Assistant Chief and ASO. Begin ASO duties as outlined in Annex E.

Close Call? — Yes → Refer to Annex B. Initiate recall starting with Aircraft Chief, Assistant Chief and ASO.

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ANNEX B

Mishap Notification Phone Numbers

Aircraft Type A or B Mishap Notification

Upon notification of a WFF aircraft mishap, coordinate search and rescue per page 18 first, if appropriate. Then notify the following personnel in order as soon as possible. Briefly inform each person of the details. Attempt each number only once before going on to the next number. Inform each succeeding person of anyone not contacted.

CONTACT	PHONE	Alternate	TIME NOTIFIED	PERSON TAKING CALL
Chief, Aircraft Office, Shane Dover	**757-824-1529/1031**	**757-894-2826**		
Asst Chief, Aircraft Office, Rich Rogers	**757-824-1403**	**757-8941386**		
ASO, Mark Russell	**757-824-1532**	**757-694-7671**		
Director WFF, William Wrobel	**757-824-1202**	**703-283-0839**		
Deputy Director WFF, Craig Purdy	**410-957-1583**	**757-894-2057**		
OSMA/SARD (HQ)	**202-358-0006.**	**866-230-6272**		
NASA HQ	**571-223-3930**	**202-314-6290**		
Chief Safety (Acting), Glen Liebig	**757-824-2518**	**757-894-3728 321-537-6539**		
Safety & Mission Assurance (OSMA/SARD)	**757-824-1498 443-736-3075**	**757-894-3187**		
Airport Manager. Ed Sudendorf	**757-824-1088**	**757-894-3753**		
Chief Range Mission Management Office, Thomas J. Pittman	**757-824-1955 410-957-2899**	**443-523-2530**		
Photographer	**757-824-2502**			
NTSB (within 24hr)	**571-223-3930**	**202-314-6290**		
Security Patrol	**911**			

Annex B (con't)
Mishap Notification Phone Numbers

Search and Rescue (SAR) Activation
Call the following agencies if SAR has not been activated or if in doubt.
NOTE: Inform the Aviation Safety Officer (ASO) or AOD Chief of any SAR actions taken

AGENCY	TELEPHONE	HOURS	PERSON
Coast Guard Chincoteague	757-336-2874 757-336-2855	24	
Coast Air Station Elizabeth city, NC	252-335-6333	24	
Coast Guard Air Station Atlantic City, NJ	609-677-2222	24	
PAX River SAR Primary Watchstander (7am-6pm)	301-342-3743	7am - 6pm	
AODO Air Ops	301-342-3836	7am - 6pm	
Base Quarter Deck	301-342-1095	(After Hours)	
Sheriff department Accomack County	757-787-1131	24	

Other Points of contact

Keith Koehler	410-651-5824
Public Affairs	757-894-4152 (cell)
Photographer	x 2502
Incidents involving NAVY facilities/aircraft	x 2058/2068
NASA HQ	202-358-2219
*NTSB	**571-223-3930 / 202-314-6290**
(24 hours)	
FAA (Eastern)	804-222-7494
Chuck Chesser, Security Officer	757-787-1340
	Cell 757-894-2471
Security Patrol	By VHF Trunked LMR System
	Phone 911, 1333, or x 2222
HQ NASA/OER External Affairs	202-358-1703
(Al Sofge)	
Personal Effects & Mortuary Affairs	202-358-2390
HQ NASA/CHMO	540-273-7993
(Rich Williams)	202-329-7427

*Notify NTSB if Mishap involves aircraft

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ANNEX C
Aircraft Mishap Required Information

1. Person Calling_____Telephone_____

2. Time /Date of Notification_____

3. Time Of Mishap_____

4. Aircraft Type / Nationality / Registration no _____

5. Name of Pilot in Command_____

6. Location of Mishap_____

    _____

    _____

7. Last point of Departures and Intended point of landing_____

8. Has medical aid been summoned ?   Yes   No   N/A

9. Description of Accident

10. Number of persons aboard and Number killed or seriously injured

11. Damage to aircraft

12. Property Damage/injury to public:

13. Who else has been notified? _____

14. Other aircraft involved_____

15. Known witnesses   NAME   Telephone   Location

        1.   _____

        2.   _____

        3.   _____

16. Weather at scene _____

17. Is a suitable helicopter landing site nearby (minimum landing site for standard rescue helicopters is 125' x 125')

    _____

18. Have the following been notified
        a.   State / local police
        b.   Fire and Ambulance

19. Will caller remain at present location or at another location to direct response and fire equipment?

        Specify Location
            •   Ask Caller to preserve wreckage until military or civilian authorities arrive
            •   Warn caller regarding dangers of Hazardous materials
            •   Call SAR/medical as required   SAR_____
                                                       Medical_____
                                                       Off Site Assistance_____

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Annex C (con't)
Mishap Classification Levels and Type of Investigation to be Conducted

Classification Level & Investigation Type	Property Damage	Injury
Type A Mishap	Total direct cost of mission failure and property damage is $2,000,000 or more, ***or*** Crewed aircraft hull loss has occurred, ***or*** Occurrence of an unexpected crewed aircraft departure from controlled flight (except high performance jet/test aircraft such as F-15, F-16, F/A-18, T-38, OV-10, and T-34, when engaged in flight test activities).	Occupational injury and/or illness that resulted in: A fatality, ***or*** A permanent total disability, ***or*** The hospitalization for inpatient care of 3 or more people within 30 workdays of the mishap.
Type B Mishap	Total direct cost of mission failure and property damage of at least $500,000 but less than $2,000,000.	Occupational injury and/or illness has resulted in permanent partial disability. ***or*** The hospitalization for inpatient care of 1-2 people within 30 workdays of the mishap.
Type C Mishap	Total direct cost of mission failure and property damage of at least $50,000 but less than $500,000.	Nonfatal occupational injury or illness that caused any workdays away from work, restricted duty, or transfer to another job beyond the workday or shift on which it occurred.
Type D Mishap	Total direct cost of mission failure and property damage of at least $1,000 but less than $50,000.	Any nonfatal OSHA recordable occupational injury and/or illness that does not meet the definition of a Type C mishap.
Close Call	An event in which there is no equipment/property damage or minor equipment/property damage (less than $1000), but which possesses a potential to cause a mishap.	An event in which there is no injury or only minor injury requiring first aid, but which possesses a potential to cause a mishap.

ANNEX D

Deployed Operations/ Mission Manager

Mission Planning

1. For Offsite operations, a Mission Manger develops the "Science Mission Pre - Mishap Contingency Plan" when an aircraft will deploy offsite. The Mishap Emergency Responders Contact List below will be used to develop a plan for the initial response for phone contacts.

Mishap Emergency Responders Contact List

The Mission Manager shall ensure that a copy of the following is kept with the mission ground

AIRPORT	INFO OPERATOR	COMMAND POST	TOWER	BASE OPS	HOSPITAL	SAR	SECURITY	CORONER

crew:

1. **Mission Anomaly and Mishap Contingency Plan**
2. **Deployment IRT kit**

 Mission Manager shall prepare to lead the IRT until properly relieved by higher authority, as well as designate a trained alternate backup. The backup for the NASA ASO will be the most senior pilot available from the NASA Aircraft Office.

This checklist is to be accomplished by the senior flight operation representative for the deployment who is not directly involved in the mishap.

Mission Anomaly & Mishap Contingency Plan   *830-MAMC-0001*

Annex D (con't)

Deployed Operations/ Mission Manager Response Checklist

Mission Manager Response Checklist

1. (A/B/C/D) Collect essential information (use Aircraft Mishap Required Information –
Appendix). Log all pertinent events starting with the first notification of the mishap.

2. (A/B/C/D) Activate emergency response, if required

a. Crash & Rescue: _____

b. Medical: _____

3. (A) Activate search and rescue (SAR), if required. Inform SAR about specific hazards with the
aircraft (explosives, HAZMAT).
 Maintain contact with SAR agency for updates.

a. Agency: _____Phone: _____

4. (A/B/C/D) Contact the Aviation Safety Officer. At a minimum, provide the following
information:

a. Details of the mishap (aircraft, location, time)

b. Injuries and/or fatalities

c. Damage assessment

d. Search and Rescue progress

Advise Aviation Safety Officer to execute the *WFF Aircraft Mishap Plan*.

5. (A/B/C/D) Identify personnel with connection to the mishap (maintenance and aircrew) and
coordinate drug testing if an employee is suspected of having caused or contributed to an
accident and if the mishap damage is expected to exceed $10,000. (Contractor personnel will be
drug tested in accordance with contractor procedures.)

6. (A/B/C/D) If classified equipment or material was carried aboard the aircraft, inform the
appropriate agency to coordinate protection of classified equipment and materials.

Agency: _____Phone:_____

ANNEX E

Aviation Safety Officer

The Aviation Safety Officer or the designated representative acts as the Center Safety representative for all aviation-related mishaps. The Aviation Safety Officer (ASO) shall take the following steps whenever notified of a WFF aircraft/aircraft-related mishap or potential mishap and log actions for future lessons learned. Actions will be based on the type of mishap. Refer to the Table 4 to determine category of mishap.

1. (A/B/C/D) Collect essential information (use Annex C, Aircraft Mishap Required Information log). Log all pertinent events starting with the first notification of the mishap.

2. (A/B/C/D) Activate emergency response, if required (at WFF 911).

3. (A) Activate search and rescue, if required (SAR APPENDIX).

4. (A/B/C/D) Initiate contact with local authorities if the mishap is not at WFF, Refer to Mission Manager for contact list.

5. (A/B/C/D) Ensure notification of key personnel. *If contact cannot be made after the first attempt, continue to the next person in order. Annotate with whom and when contact was made. Do not delay notification.*

*6. (A) Inform members of the Interim Response Team (IRT) to report to the Hangar building N-159.

      a. Aviation Safety Officer
      b. Quality Assurance (QA) and/or Safety and Mission Assurance
      c. Public Affairs Office
      e. WFF Flight Surgeon
      f. WFF Photographer

* Refer to WFF Aircraft Mishap Reference List for associated phone number.

7. (A/B) Following initial notification of key personnel, proceed to NASA WFF Aircraft Office and load Emergency Response Kit onto government vehicle as necessary.

8. (A/B) Refer to Tables to determine normal materials and explosive devices for the type of aircraft. Determine what other hazardous materials, if any, were carried aboard the aircraft. Be prepared to brief hazardous materials that will be encountered. Ensure IRT has proper personal protection equipment (PPE) before departing to accident site.

9. (A/B/C/D) Determine if classified equipment or material was carried aboard the aircraft. If necessary, inform WFF Security to coordinate protection of classified equipment and materials.

10. (A/B) Arrange transportation to the mishap scene for the IRT.
11. (A/B/C/D) Take custody of such materials as may be delivered to you for the use of the Mishap Investigation Board until relieved of this responsibility by the Board Chairman or the Chief Safety Officer.

12. Notify relevant authorities, as required.

　　a. (A/B) Contact NASA Office of Safety and Mission Assurance, Safety and Assurance Requirements Division (OSMA/SARD) *within 1 hour* of occurrence of a Type A, Type B, or high-visibility mishap or close call at 202-358-0006. If no response or if after hours, call the NASA Headquarters after Hours Contact Center at 866-230-6272.

　　b. (A/B) Advise the Chief, Aircraft Operations Division of requirements to contact the National Transportation Safety Board (NTSB) *immediately* following a reportable mishap, incident, or close call (refer to NPR 8621.1, paragraph 1.6.6 to determine the reportable incidents) at the Regional Office associated with the state in which the accident or incident occurred. Regional Offices can be found at (http://www.ntsb.gov/Abt_NTSB/regions/AVIATION.HTM).

　　c. (A/B) Contact the Occupation Safety and Health Administration (OSHA) *within 8 hours* of a work-related mishap involving the death of a Federal employee or hospitalization of 3 or more employees (at least one of whom is a Federal employee) at the area office nearest to the mishap or at 800-321-6742.

　　d. (A/B/C/D) Within 24 hours, provide information to WFF Safety and Mission Assurance contact for entry into Incident Reporting Information System (IRIS). Notification of the mishap or high-visibility close call to include the following information: Center submitting report; author of report; author's phone number and mail code; date report submitted; time report submitted; incident date; incident time; incident general location; exact location (if known); responsible organization; organization's point of contact; point of contact's phone number and mail code; mission affected; program impact (if known); number and type of injuries or fatalities (if known); type of damage to equipment, flight hardware, flight software, or facilities; estimate of direct cost of damage; and a brief description of the mishap or close call.

　　e. (A/B) Ensure the Public Affairs Office has been notified about casualties, damages, and any potential hazards to the public.

13. (A/B/C/D) Advise the Chief, Aircraft Operations Division to initiate drug testing per NPR 3792.1, NASA Plan for a Drug-Free Workplace, if an employee is suspected of having caused or contributed to an accident and if the mishap results in a fatality or personal injury requiring immediate hospitalization, or in damage estimated to be in excess of $10,000 to government or private property. Civil servant drug testing is coordinated through the NASA Shared Services Center (NSSC) at 877-677-2123. The Human Resources Office will be notified at 757 824-2394 when a decision is made regarding drug testing. Drug testing of contractor personnel is per applicable contract.

14. (A/B/C/D) Ensure the AOD Aircraft Quality Assurance Branch Chief impounds all records and material related to the mishap per AOD 33808, Impounding Aircraft, Components, and Maintenance Documentation.

15. (A) In the event of fatalities, advise the Chief, Aircraft Operations Division of the availability of employee crisis counseling for the workforce through the Employee Assistance Program (EAP) at 757-824-1720 and the Human Resources Office at 757 824-2394

16. (A) Support the IRT as required.

6. (A/B/C/D) Support the mishap investigation as required.

7. (A/B/C/D) Ensure WFF Aircraft Mishap Plan functioned properly and make corrections if necessary.

ANNEX F

Item	Title	Description	Qty	Total Price
Rucksack	8 Pocket ABU Ruck Sack W/ Frame		1	347.69
Caution Tape	Barricade Tape		2	9.48
Flag Marker	Marking flag 21" Orange Wire	Qty: 100	1	10.49
First Aid Kit	First aid	8 person, zippered carrying bag	1	62.9
Rain Suit	Rain Gear Full Suit X-Large	Jacket hood and overall	2	28.4
Duct Tape	Duct Tape		2	12.52
Bug Spray	6oz Pump w/19% Deet Ultrathon	3M Ultrathon	2	18.28
Sun Block	Banana Boat SPF 50 Sunscreen	SPF 50	2	20.62
Measuring Tape	3/8" x 100' Long Tape Lufkin	100'	1	38.19
Sharpies	Various Points	Supply Closet		
Ball point pens		Supply Closet		
Gloves	Work Gloves		2	18.5
Graph Paper		Supply Closet		
Tablet Paper		Supply Closet		
Grid Maps of Wallops		Unknown		
Toe Tags	Shipping Tag	2-5/8 x 5-1/4"	2	22.96
Swiss Knife	Swiss Climber Knife	2 blades, scissors, can opener etc	1	31.4
Machete Sheath	Latin Machete 18" Sheath Only		1	3.61
Machete	Machete	easier brush clearing 18"	1	17.98
Safety Goggles	Safety Goggles	Clear, can be worn over glasses	2	6.66
Hammer	Claw Hammer(Curved Claw)		1	17.99
Binocular	Binocular, Trooper 8x40		1	42.4
Reflective Vest	High-Visibility Safety Clothing	Orange, Not printed	5	96.85
Latex Gloves	Disposable Latex Gloves	More sizes available	1	6.25
Camera Accessories	Canon Digital ELPH Accessory Kit 5	Extra Battery, small case, strap	1	46.07
Digital Camera	Canon Dig Cam, 12.1 MGP, 4x	Powershot SD1300 ELPH	1	190
GPS	Garmin GPS 72H	18hr battery, MGRS, Waterproof	1	117
Digital Audio Recorder	Digital, 2GB, B/S Recorder		1	65
Two way radio	FRS/GMRS Walkie- Talkie Radio Set		2	98.2
Ziploc Bags			1	
Measuring Wheel	Measuring Wheel Precision	Keson Measuring Wheels	1	63.93
Memory Card	ver96318 ** Card, SDHC, Premium, 8GB		1	26.85
Compass	Cammenga Lensatic Compass	Cammenga	1	60.27
Spray Paint	Indust Choice Inv Marking Paint	Orange	3	15.6
Wrecking Bar	Wrecking Bar		1	15.36
Flashlight	Flashlight	Heavy Duty	1	5.64
Batteries for Flashlight	Alkaline Battery	Size D 36-mo shelf life	4	13

Blood Borne Pathogen Kit	Medprotect #MC-50	2XL	2	62.94
		3XL	4	128.76
		4XL	4	137
				1858.79