

MWI 8621.1  
REVISION K-1  
EFFECTIVE DATE: October 20, 2016  
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# MARSHALL WORK INSTRUCTION

QD01

## MISHAP AND CLOSE CALL REPORTING AND INVESTIGATION PROGRAM

*With Change 1 (11/1/16)*

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## DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Change/ Revalidation/ Canceled)	Document Revision/ Change	Effective Date	Description
Baseline		3/27/00	
Revision	A	8/22/01	Document rewritten in its entirety.
Revision	B	10/29/2004	Document revised to meet NPR 8621.1 latest rev and reformatted per HQ requirements review.
Revision	C	4/11/2008	Major re-write. Changed document name to better match NPR 8621.1. Revised 2. Applicability statement to address the applicability of this directive to the Michoud Assembly Facility. Revised to meet NPR 8621.1B and expand on/clarify MSFC specific requirements to better define roles and responsibilities. Added role for an IRIS representative for each organization. Grammar and editorial changes made throughout document.
Revision	D	2/3/2009	Added Table of Contents. Rearranged several sections to make flow better. Added items in 6.23 to be closed in IRIS before Mishap can be closed by ISB. Split Appendix Z into 4 appendices to better identify examples. Minor editorial and grammar changes throughout MWI for clarity.
Revision	E	11/20/2009	Added section for lessons learned. Clarified how a charge code is requested when supporting an investigation. Added more details in securing evidence at an accident scene and conducting an investigation. Updated notification call list. Added Appendices E, F, and G. Added additional wording for direct cost in 6.9. Deleted flowchart. [On 12/2/09, at the request of OPRD, administrative changes were made at 6.28.1 Note correcting "POA" to "PAO," and adding Appendix L.] [On 2/1/10, at the request of the OPRD, administrative changes were made at 6.16.6.5 a. and 6.18.7 to update reference from Appendix Z to Appendix H.]
Revision	F	8/17/2011	Updated dollar amount for mishap types and mishap report contents. Deleted Appendices C, D and E that provided examples of forms. Deleted document titles. Added references to NPR 8621.1 chapters throughout so that requirements can be better linked to the Agency requirement. Rearranged a couple of sections to get a better flow. Deleted Appendix B. Added Appendix I. Deleted general flow chart. Attempted to link Type A, Type B, and High Visibility incidents to follow process defined in NPR 8621.1, and provide more details in the process. Moved definitions to an appendix. Added appendix for mishap report checklist.
Revision	G	9/26/2012	Total rewrite. Revised per 2011 management review. In 2. Applicability added 2.5 for Type C, D and Center Close Calls and 2.6 for Type A, B and high-visibility close calls which follow the requirements in NPR 8621.1. Rearranged some sections for a better flow of the process. Reformatted per MWI 1410.1 revision.
Change	1	4/8/2013	On 4/8/13, at the request of the OPRD, administrative changes were made throughout (where applicable) to change "MSFC and MAF" to "Center" to clarify that this directive is applicable to both MSFC and MAF. (Note "MSFC" or "MAF" is used if the instruction is applicable to only one location.) Replaced (where applicable) Center specific organization names (ISB and PSO) with the generic terms "Center Safety Office and Center Protective Services Office" so the instructions can be easily applicable to

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			both locations. P.1 edited for clarity. In P.4 removed obsolete directives (MPD 1040.3 & MPR 1040.4) and corresponding citations. In Appendix A, added definitions for “Center,” “Center Safety Office,” and “Center Protective Services Office” identifying whether MSFC or MAF is applicable.
Revision	H	7/16/2013	NOTE: Review and comment LIMITED to: 5.18 which removes the requirement that a presentation of Type C, Type D, and Center Close Calls mishap investigations to the Center’s SHE Committee serves as the endorsement of the investigation. The following Administrative Changes are not open for review or comment: At 5.10, changed MSFC S&MA “ISB Chief” to “Safety and Quality Department Manager.” At Appendix A, added definitions for Center’s IRIS Administrator/Alternate and IRIS organization Point of Contact (POC). Changed MPR 1040.3 to IMSC-Plan-1040.3.
Revision	I	10/3/2014	Updated IRIS to NASA Mishap Information System (NMIS). Reworded some statements to close a 2014 Gap Analysis performed by the NASA Safety Center REDAA team for flow-down of NASA requirements to the Center and also close NASA IFO audit findings 16, 27, 32, 55, 59, 60, 62. Deleted reference to IMSC-Plan-COOP-001. Changed S&MA to SMA.
Revision	J	8/17/2015	Complete rewrite to clarify mishap/close call reporting, response, investigation and recording process.
Revision	K	10/20/2016	Rearranged MWI section to line up with NPR 8621.1C revised 5/19/16 sections for easier verification of flowdown of NPR requirements applicable to type C, D and close calls. Changed “low-visibility” to read “those mishaps/close calls not considered as high-visibility.” Formatted NOTES. Changed mishap/close calls to incidents in most places. Provide clarity between Center safety office investigation and contractor and/or org responsible for the facility/operation investigation. Changed NMIS organization POC to Organization’s NMIS POC. Expanded description of what is not applicable to this MWI. Provided clarification for the role of the MAF SMA Manager/QD12. Acronyms not spelled out first use in body of MWI per OPRD Tips for writing directives. Deleted Appendix E Training and G References.
Change	l	11/1/2016	On 11/1/16, at the request of the OPRD, administrative changes were made to clarify the acceptance of contractor investigation reports at MAF (5.18.8.1), and to clarify the process for random review of MAF cases (5.3.6 thru 5.3.11).

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## **1. PURPOSE**

To identify the Center’s instructions and processes for reporting, investigating, and documenting incidents, and resulting corrective actions to prevent occurrence of similar work-related injury/illness, property damage, or mission failure as required by NPR 8621.1.

## **2. APPLICABILITY**

2.1 This MWI applies to Center personnel, programs, projects, and activities, including contractors and resident agencies to the extent specified in their respective contracts or agreements. (“Contractors,” for purposes of this paragraph, include contractors, grantees, Cooperative Agreement recipients, Space Act Agreement partners, or other agreement parties.)

2.2 The MWI applies to the MAF.

2.3 This MWI applies as follows: all mandatory actions (i.e., requirements) are denoted by statements containing the term “shall.” The terms: “may” or “can” denote discretionary privilege or permission; “should” denotes a good practice and is recommended, but not required; “will” denotes expected outcome; and “are/is” denotes descriptive material.

2.4 This MWI applies the following: all document citations are assumed to be the latest version unless otherwise noted.

2.5 This MWI applies to the reporting of all Center incidents (mishaps/close calls).

2.6 This MWI applies to Center incidents determined to meet the definition of a NASA reportable Type C, Type D, and those incidents not considered as High-Visibility Mishaps/Close Calls.

2.7 This MWI does not apply to Center incidents determined to meet the definition of a NASA reportable mishaps and close calls classified as Type A, Type B, and High-Visibility Mishaps/Close Calls, or incidents that involve NASA aircraft. The Center follows the processes described in NPR 8621.1 for reporting; classifying; selecting the AO; selecting the IA; developing, approving, endorsing, and distributing an investigation report; developing and approving CAP and lessons learned; and releasing information to the public for incidents classified as meeting the definition of a NASA reportable Type A, Type B and high-visibility incident. These types of incidents may be mentioned within this MWI, but only as a reference and clarification.

## **3. AUTHORITY**

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

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#### **4. APPLICABLE DOCUMENTS AND FORMS**

- 4.1 “Privacy Act of 1974,” 5 U.S.C. 552a
- 4.2 “Recording and Reporting Occupational Injuries and Illness,” 29 CFR pt 1904
- 4.3 “Accident Investigation,” 29 CFR pt 1960.29
- 4.4 NFS 1807, “Acquisition Planning”
- 4.5 NFS 1852.223-70, “Safety and Health Measures and Mishap Reporting”
- 4.6 NPR 1600.1, “NASA Security Program Procedural Requirements”
- 4.7 NPR 3792.1, “NASA’s Plan for a Drug Free Workplace”
- 4.8 NPR 7120.5, “NASA Space Flight Program and Project Management Requirements”
- 4.9 NPR 8715.1, “NASA Occupational Safety and Health Program”
- 4.10 NPR 8715.3, “NASA General Safety Program Requirements”
- 4.11 NRRS 1441.1, “NASA Records Retention Schedules”
- 4.13 MPR 1600.1, “MSFC Security Program Procedural Requirements”
- 4.14 MPR 3410.1, “Training”
- 4.15 MPR 8715.1, “Marshall Safety, Health, and Environmental (SHE) Program”
- 4.16 MWI 8715.15, “Ground Operations Safety Assessment Program”
- 4.17 MWI 8715.17, “Hazardous Operations Readiness Review Program”
- 4.18 MCP 1040.2, “MSFC Emergency Plan”
- 4.19 MCP 1040.4, “MAF Emergency Plan”
- 4.20 MCP 8621.1, “MSFC Mishap Preparedness and Contingency Plan”
- 4.21 QD-IS-009, “Mishap and Close Call Reporting, Response, Notification and Investigation Process”
- 4.22 MSFC Form 4371, “Contractor Accident and Safety Statistics”
- 4.23 MSFC Form 4377, “MSFC Institutional Reserve Request”

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4.24 MSFC Form 4515, “Mishap/Incident Investigation Form”

4.25 OSHA Form 300A, “Summary of Work-Related Injuries and Illnesses”

4.26 National Archives and Records Administration (NARA) General Records Schedule

## **5. INSTRUCTIONS**

### **5.1 NASA Mishap/Close Call Descriptions**

Descriptions of incidents classified as a NASA reportable mishap/close call are contained in NPR 8621.1.

*NOTE: The term “incident” is a generic term used throughout this MWI to describe a mishap or close call.*

### **5.2 MPCP**

5.2.1 MPCP(s) for the notification, reporting, investigation, recording, and the policies and requirements for the prevention of incidents that fall within the Center’s jurisdiction shall be developed to include the elements listed in NPR 8621.1 and implemented following the processes described in NPR 8621.1 for the Center and Center Program/Projects.

5.2.2 MCP 8621.1 serves as the Center’s MPCP and is supported by the processes described in MCP 1040.2, MPR 8715.1 and this MWI. MCP 8621.1 is developed by the Center’s Safety Office and implemented upon notification of an incident where Center Safety Office support is necessary.

*NOTE: A copy of the Center’s MPCP is provided to the OSMA Mishap Investigation Program Executive at NASA Headquarters upon Center approval by the Center’s MIPM.*

5.2.3 MCP 1040.2 contains instructions for responding to emergency situations and is developed and implemented by the Center’s Emergency Preparedness Director upon notification of an incident where emergency support is necessary.

5.2.4 MPR 8715.1 contains the policies and requirements for the prevention of incidents and this MWI contains instructions for the notification, reporting, investigation, recording of incidents. MPR 8715.1 and this MWI are developed and implemented by the Center’s Safety Office.

5.2.5 Center Program/Project MPCP(s) are developed by the Manager of the Center Program/Project to include the elements listed in NPR 8621.1 and implemented following the process described in NPR 8621.1, MCP 8621.1, and this MWI.

5.2.6 The Center’s SMA representative assigned to the Center Program/Project shall provide assistance to the Center Program/Project in the development of a Center Program/Project MPCP

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to ensure it contains the elements listed in NPR 8621.1 Chapter 1 as applicable. Center Program/Project MPCP(s) should address any work planned to be performed on Center.

*NOTE: Contact the Center's Safety Office if assistance is needed in the development of the Center Program/Project MPCP.*

5.2.7 Center Program/Project MPCPs shall be routed through the Center's Safety Office by the Manager or designee of the Center Program/Project for review and concurrence prior to forwarding to the OSMA Mishap Investigation Program Executive at NASA Headquarters following the process described in NPR 8621.1 prior to any Safety and Mission Success Review. The Center's Emergency Preparedness Director may also be included in the review and concurrence of the Program/Project MPCP.

*NOTE: Center Program/Project plans that are not included in the Center Program/Project MPCP and identify an increased risk of accident, injury, or illness due to the nature of work being performed or are considered hazardous or safety critical are reviewed and receive concurrence following the process described in MWI 8715.15.*

5.2.8 The Center's MPCP for responding, securing and ensuring the incident site is placed in a safe condition shall take precedence over any Center Program/Project MPCP for Program/Project incidents that occur on Center. (See MCP 8621.1 for more information.)

*NOTE: Program/Project IRT identified in Center Program/Project MPCP(s) do not have an active role in Program/Project-related incidents that occur on Center. A Program/Project IRT is formed by the Program/Project to provide support for Program/Project incidents that occur off Center or at contractor facilities. (See section 5.3 of this MWI and NPR 8621.1 for more information.)*

5.2.9 In the event a Center program/project-related incident occurs on the Center, the onsite program/project manager shall be notified by the organization directly responsible for the facility/operation where the incident occurred to implement the specific Center Program/Project MPCP following the process described in NPR 8621.1. The Center Program/Project MPCP will be implemented to the extent necessary, so long as it does not conflict or hamper with implementation of the Center's MPCP.

*NOTE: Program/Projects are defined in NPR 7120.5, Appendix A.*

#### 5.2.10 Emergency Procedures for Facilities and Tests

5.2.10.1 Emergency procedures shall be developed and implemented by the facility/operation/test owner for facilities, operations, and tests identified to have an overall risk level of high or moderate. (See MWI 8715.15 and MWI 8715.17 for more information.)

5.2.10.2 Emergency procedures shall be periodically practiced to identify deficiencies and actions necessary to ensure the emergency procedure is effectively implemented in the event of an emergency following the process described in NPR 8621.1.

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5.2.10.3 The organization responsible for the emergency shall determine the method of practicing the emergency procedure. The method of practicing may range from a review of the emergency section of a test procedure, a table top review/dry run or full enactment simulation, where possible. Contact the Center’s Safety Office for more information.

*NOTE: Emergency procedures are practiced at the frequency determined by the organization responsible for the emergency procedure, but are recommended to be practiced at a minimum every two years.*

### 5.3 Roles and Training in Incident Response and Investigation.

5.3.1 Incident response roles normally include representatives from the Center’s PSO, Redstone Arsenal Fire Department, Incident Commander, FMO and Center’s Safety Office, but may include other organization representatives depending on the incident type.

5.3.1.1 The Center’s Safety Office serves in the role of the Center’s IRT as described in NPR 8621.1, MCP 8621.1 and this MWI and ensures employees designated to serve as the Center’s IRT are knowledgeable of their roles and responsibilities, and successfully complete training described in NPR 8621.1, MCP 8621.1, and this MWI.

5.3.2 The Center’s Emergency Preparedness Director ensures employees designated to serve as emergency responders are knowledgeable of their roles and responsibilities, and successfully complete training described in MCP 1040.2.

5.3.2.1 At MAF, emergency responder’s roles and responsibilities are described in MCP 1040.4.

5.3.3 The Center’s Safety Office ensures employees serving as an investigator for a Center Safety Office non-appointed IA are knowledgeable of their roles and responsibilities, and successfully complete training described in NPR 8621.1, MCP 8621.1, MPR 8715.1, and this MWI.

5.3.4 The Center’s MIPM ensures employees selected to serve as a member of a formally appointed IA for a Government-authorized investigation are knowledgeable of their roles and responsibilities, investigation techniques, and successfully complete training described in NPR 8621.1 and this MWI.

5.3.4.1 A listing of employees that have successfully completed investigation training and may be selected to serve as a member of a formally appointed IA is maintained up-to-date by the NASA Safety Center and is available on their “Knowledge Now” website. (Contact the Center’s MIPM for more information.)

5.3.5 The Center’s MIPM has oversight of the Center’s mishap/close call investigation program and ensures the day-to-day activities for responding, investigating and recording incidents described in NPR 8621.1 and this MWI are implemented and effective at the Center (MSFC and MAF).

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5.3.6 Center’s MIPM ensures employee(s) appointed to serve in the Center’s NMIS Administrator are knowledgeable and familiar with NMIS recordkeeping and handling requirements of the NRRS 1441.1 and Privacy Act of 1974 as amended, 5 U.S.C. 552a.

5.3.7 The Center’s MIPM randomly reviews Center NMIS cases to verify NMIS cases contains the minimum data specified by NPR 8621.1 and this MWI, and notifies the Center’s NMIS Administrator or investigator of NMIS cases discovered containing incorrect or missing data. At MAF the MAF SMA Manager/QD12 is notified of MAF NMIS cases discovered with missing data. At a minimum the random review of NMIS cases verifies the following:

5.3.7.1 The NMIS case is classified correctly.

5.3.7.2 A clear description of the incident is provided.

5.3.7.3 The finding description is appropriate and the finding details are clearly written and traceable to information provided in the investigation report.

5.3.7.4 The corrective action details are clearly written and describe the actions necessary to prevent recurrence of a similar incident.

5.3.8 The Center’s NMIS Administrator has oversight of the Center’s processes for recording incidents in NMIS as described in NPR 8621.1 and this MWI and ensures the day-to-day processes for opening, entering data, and closing NMIS cases are implemented and effective at the Center (MSFC and MAF).

5.3.9 The Center’s NMIS Administrator randomly reviews Center NMIS cases and notifies the Center’s MIPM or investigator of NMIS cases discovered containing incorrect or missing data. At MAF, the MAF SMA Manager/QD12 is notified of MAF NMIS cases discovered with missing data. At a minimum the random review of NMIS cases verifies the following:

5.3.9.1 Verify employee name(s) and private medical information is provided in the correct section within NMIS.

5.3.9.2 Contains a brief and clear description of the incident.

5.3.9.3 Is updated every 30 workdays.

*NOTE: The Center’s NMIS Administrator is directly involved in the day-to-day activities of MSFC NMIS cases that includes, at a minimum, opening the case, entering data and closing the case.*

5.3.10 The Center’s NMIS Administrator provides current status of Center NMIS cases to Center management, when requested.

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5.3.11 At MAF, the MAF SMA Manager/QD12 serves in the role of the Center’s Safety Office and performs or ensures the day-to-day activities for responding, investigating and recording incidents described in NPR 8621.1 and the MWI are implemented and effective.

#### 5.4 Reporting Emergency and Non-Emergency Incidents

5.4.1 Employees that witnessed or were involved in the emergency or non-emergency incident are encouraged to report the incident by one of the methods below and notify their immediate supervisor. (See 29 CFR pt 1904, NPR 8621.1, NPR 8715.1, and MPR 8715.1 for more information.)

5.4.2 Report emergencies by calling 911.

5.4.2.1 Emergencies include, but are not limited to, fire, explosions, chemical spills that are beyond an employee’s training or ability to control, discovery of discarded/buried chemical munitions, and incidents that require emergency response such as an ambulance.

5.4.2.2 At MSFC, Call 911 to activate the MSFC emergency response system. The specific emergency process or procedure implemented will depend on the type of emergency reported.

5.4.2.3 At MAF, non-MAF network phones can also call (504) 257-2333.

5.4.2.4 When calling 911 from an MSFC or MAF non-network phone, inform the operator that you are located on MSFC or MAF and provide a location such as a building number or street name.

5.4.3 Report non-emergency incidents by any of the following methods:

5.4.3.1 At MSFC, call the Safety Hotline at 4-HELP (4357) and select the “safety” option, (256) 544-0046.

5.4.3.2 At MAF, call the Safety Hotline at (504) 257-HELP and select the “safety” option, (504) 257-0SAF (0723), (504) 257-1340, or (504) 343-2367.

5.4.3.3 Online submittal via MSFC’s “Explornet Homepage,” under “Support” select “Report a Safety Concern, Mishap or Close Call.” The link provides access to NMIS.

5.4.3.4 Direct input to the NASA NMIS via <http://nmis.sma.nasa.gov>.

5.4.3.5 Visit to the Center’s Medical Center in cases where a medical evaluation may be necessary.

#### 5.5 Notification of Incident

5.5.1 The supervisors of an employee involved in an incident or are directly responsible for the facility/operation where the incident occurred shall ensure the Center’s Safety Office is notified within the following timelines:

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5.5.1.1 No later than 1 hour of occurrence or awareness for an incident identified to include any of the following: 1) an occupational injury or illness resulting in a fatality, permanent or partial disability, hospitalization for inpatient care of three or more people within 30 workdays of the incident; 2) a potential total direct cost of mission failure or property damage equal to or greater than \$500,000; or 3) may be considered as a high-visibility event for NASA.

5.5.1.2 No later than 4 hours of occurrence or awareness for an incident identified to include any of the following: 1) an occupational injury or illness resulting in a non-serious injury or first aid treatment; 2) a potential total direct cost of mission failure or property damage less than \$500,000; or 3) not considered as a high-visibility event for NASA.

*NOTE: Unless otherwise determined by the Center's MIPM these types of incidents are classified as Type C, Type D and incidents not considered as high-visibility event.*

5.5.2 The Center's Safety Office is normally notified after MSFC emergency response organizations (i.e., Center's Fire Department, Center's PSO or other MSFC emergency response organizations/personnel) have been notified.

5.5.3 Notification of a Center Program/Project-related incident is provided to the Center Program/Project manager following the process described in NPR 8621.1 and the specific Program/Project MPCP.

5.5.4 Contractor notification timelines are described in the contract DRD for MSR for NASA reportable mishaps/close calls as specified by NFS 1852.223-70 or other applicable NFS or Federal Acquisition Regulation clause included in their contract. (See NPR 8621.1 for more information.)

5.5.5 Center Organizations providing support or equipment/systems to a non-NASA outside organization that is on Center through a lease, Space Act Agreement, Cooperative Agreement or grant shall notify the Center's Safety Office of the non-NASA organization's incident as specified by the lease, Space Act Agreement, Cooperative Agreement or grant.

5.5.6 At MAF, notification of incidents are made to the MAF SMA Manager/QD12.

## 5.6 Incident Information

5.6.1 Employees are encouraged to provide, at a minimum, the following information in their initial notification:

5.6.1.1 Location and time of mishap.

5.6.1.2 Number of fatalities and hospitalized or injured employees (if known).

5.6.1.3 Company or MSFC organization contact person and phone number (if known).

5.6.1.4 A brief description of what happened.

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*NOTE: When reporting an incident, be prepared to answer the questions listed above.*

## 5.7 Incident Response

5.7.1 Center organizations designated to respond to emergencies shall respond and implement actions necessary to mitigate the emergency situations and provide assistance in ensuring the incident site and is placed in a safe condition.

5.7.1.1 MCP 1040.2 describes the Center’s processes for responding to emergency and non-emergency situations that occur on Center. These processes may vary depending on the type of event prompting the MSFC emergency response.

5.7.1.2 MCP 8621.1, QD-IS-009 and this MWI describe the Center’s Safety Office processes for responding to emergency and non-emergency situations that occur on Center. These processes may vary depending on the type of event prompting the MSFC emergency response.

5.7.2 Precautions shall be taken by MSFC emergency responders when arriving at emergency sites to ensure they do not place themselves or others into a dangerous situation.

5.7.2.1 If the emergency is located in a known hazardous area with access controls, the POC for the hazardous area shall be located prior to entering the area to ensure the area is safe to enter.

5.7.2.2 The Redstone Fire Department may respond to some MSFC emergencies and they will determine, depending on the type of emergency, if they should notify the area POC prior to entering the area.

5.7.3 The organization whose employees were involved in the incident or are directly responsible for the facility/operation where the incident occurred shall implement the actions necessary to place the incident site in a safe condition to prevent additional employee injury or damage to property and not disturb the site until emergency response personnel arrive at the site.

5.7.4 The Center’s Safety Office, when serving as the IRT, shall ensure the following:

*NOTE: The Center’s PSO will normally assume the initial on-site incident command role for incidents that fall under the control of the Center’s PSO as defined in MCP 1040.2 until relieved by the Chief PSO Officer, Redstone Arsenal Fire Department or designee, and provide area access control until released by a recognized Center authority.*

5.7.4.1 Actions are taken to immediately safe and secure the incident site to prevent further injury to personnel and/or damage to any property, limit unnecessary access, preserve evidence, and actions are taken to notify the Center’s management and Center employees of hazardous conditions created by the incident and methods to control the hazardous conditions, when necessary. The initial actions are normally taken by the organization directly responsible for the facility/operation where the incident occurred until MSFC emergency response personnel arrive at the site.

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*NOTE: Incident sites should not be disturbed until the investigation is performed and the incident site is released for normal activities by the organization assigned the area. Emergency responders may occasionally disturb the incident site when implementing actions to place the incident site in a safe condition.*

5.7.4.2 Potential evidence/debris is identified, collected, secured or impounded, scene is documented and witness statements are obtained following the process described in NPR 8621.1. These items and information is provided to the IA when requested.

*NOTE 1: Evidence is preserved without affecting safety operations to the extent possible.*

*NOTE 2: Physical evidence, if needed, is retained for 2 years from the date of the incident. Prior to disposal contact the Center's Legal Office to ensure there is no active litigation that may affect dispositional decisions.*

5.7.5 If contractor employees or property are involved in the incident, the Contracting Officer/Contracting Officer Representative may be contacted for guidance prior to interviewing contractor employees and/or impounding the involved contractor property.

5.7.6 At MAF, the MAF SMA Manager/QD12 ensures a representative from safety responds to emergency and non-emergency situations and actions necessary to mitigate the situation are implemented, and assistance is provided in ensuring the incident site is placed in a safe condition.

## 5.8 Center's Safety Office Preliminary Investigation

5.8.1 A preliminary investigation shall be performed by the Center's Safety Office. The preliminary investigation may be performed during the Center's Safety Office initial response to the incident site while performing their role as the IRT following the processes described in this MWI and QD-IS-009.

5.8.2 Preliminary investigations are not an in-depth investigation and only focus on gathering facts and information related to the incident, such as the following:

5.8.2.1 What happened?

5.8.2.2 Were employee(s) injured?

5.8.2.3 Was property damaged?

5.8.2.4 Did employee actions or failure to act cause or contribute to the incident?

5.8.2.5 Did unsafe/unhealthful conditions cause or contribute to the incident?

5.8.3 Preliminary investigation shall be performed before the incident site is disturbed or changed, and while the victim(s) and witnesses have a clear memory of what occurred.

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5.8.4 The Center’s Safety Office will provide instructions to the organization responsible for the facility/operation to stop all work activities directly associated with the incident and not disturb the incident site until notified by the Center’s Safety Office or a formally appointed IA chairperson that the incident call site has been released for normal activities.

5.8.5 The purpose of the preliminary investigation is to provide initial facts and information to the Center’s MIPM to assist in determining the following:

5.8.5.1 Is the incident is a NASA reportable mishap/close call?

5.8.5.2 Should the incident continue to be investigated by the Center’s Safety Office as a non-appointed IA?

5.8.5.3 Should the incident be presented to the Center’s Investigation AO for consideration for a formally appointed IA to perform a more in-depth investigation? (See section 5.14 of this MWI for more information.)

5.8.6 The preliminary investigation shall be halted if information is discovered that leads to a reasonable belief that the incident could be a result of criminal or hostile activity. The Center’s Office of Chief Council is notified in these situations.

5.8.7 The Center’s Safety Office preliminary investigation may continue and become a more detailed investigation, and serve as the investigation for the incident as determined by the Center’s MIPM. (See section 5.16 of this MWI for more information.)

5.8.8 The organization’s SHE POC, organization’s NMIS POC or building manager may be requested to participate and provide assistance to the Center’s Safety Office in their preliminary investigation. (See section 5.16 for more information for participating in an investigation.)

5.8.9 At MAF, the MAF SMA Manager/QD12 ensures a preliminary investigation is performed, if necessary.

## 5.9 Post-Incident Drug Test

5.9.1 If the initial information indicates that an employee’s actions or failure to act caused/contributed to the incident the Center’s Safety Office IRT will inform the supervisor of the organization whose employee(s) was involved in the incident or are directly responsible for the facility/operation where the incident occurred. The Center’s Safety Office IRT will provide assistance and information to the employee’s supervisor (Civil Servant and Contractor) in making this decision.

5.9.2 If necessary a post-incident drug test shall be initiated by the employee’s supervisor or the next available (higher level) supervisor (Civil Servant and Contractor) following the process described in NPR 3792.1 and NPR 8621.1.

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5.9.3 The facts and circumstances that warrant the testing (i.e., the severity of the incident and the rationale for the determination that the employee’s actions could have contributed to the incident) shall be documented by the supervisor of the employee or any of the emergency responders.

5.9.4 A post-incident drug test shall be scheduled by the supervisor of the employee and performed as expeditiously as possible following medical treatment, if necessary, following the process described in NPR 3792.1 and NPR 8621.1.

5.9.5 The Center’s Office of Human Capital shall be contacted by the employee’s supervisor to schedule the post-incident drug test.

5.9.5.1 At MSFC, contact the Office of Human Capital, Human Resources Services Office.

5.9.6 Actions necessary to proceed with post-incident drug testing shall be initiated by the Center’s Office of Human Capital and feedback provided to the supervisor and employee(s) when the testing is scheduled.

5.9.7 A working copy of the request for post-incident drug testing and results of the post-incident drug test shall be provided by the employee’s supervisor or Center’s Office of Human Capital to the Center’s NMIS Administrator for inclusion with the incident NMIS case files.

5.9.8 If the employee to be tested is a contractor employee the Contracting Officer, Contracting Officer Representative, and Center’s Office of Chief Counsel shall be notified and follow the same process described in this MWI or an equivalent contractor process.

5.9.8.1 Results of a contractor post-incident drug testing shall be provided to the government.

5.9.9 At MAF, the MAF SMA Manager/QD12 ensures actions are taken to perform post-incident drug testing, if necessary.

#### 5.10 Determine Incident Classification

5.10.1 The NASA recordable incident classification level shall be determined by the Center’s MIPM within 24 hours following the process described in NPR 8621.1.

5.10.1.1 Concurrence from the Chief/OSMA at NASA Headquarters shall be obtained if the Center’s MIPM considers the incident to be a NASA reportable Type A, Type B or high-visibility mishap/close call following the process described in NPR 8621.1.

*NOTE 1: The severity of the personnel injury and the direct cost of the incident (property damage or mission failure) determine the classification level of the incident and the corresponding level of investigation to perform. The initial information and facts gathered during the Center’s Safety Office preliminary investigation assists the Center’s MIPM in determining if the incident is work-related and/or a NASA reportable incident and the NASA incident type.*

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*NOTE 2: 29 CFR pt 1904 may be used to assist in determining if an occupational injury is work-related or considered as an exception.*

5.10.2 Direct cost of an incident are determined by the organization directly responsible for the facility/operation where the incident occurred with concurrence from the Center’s Safety Office. An estimated cost of the incident may be entered into NMIS if the actual cost is unavailable and updated when the actual cost becomes known.

5.10.3 Incidents may occur on Center during development testing activities, severe weather, natural phenomenon, felonious acts and others may not be considered as a NASA recordable mishap. (See NPR 8621.1 for more information for what is considered as a non NASA reportable incident.)

5.10.4 The Center’s MIPM shall use professional judgment based on facts and information when selecting the mishap type or close call for Center incidents determined to be a NASA reportable mishap/close call, but are classified less than a Type A, Type B or high-visibility mishap/close call.

5.10.5 At MAF, the MAF SMA Manager/QD12 ensures incidents are classified and contacts the Center’s MIPM or Center’s NMIS Administrator for assistance, as needed.

#### 5.11 Post-Mishap/Close Call Notification

5.11.1 Center management may be notified by Center’s Emergency Management Director, Center’s Safety Office, Center’s PSO, or the organization directly responsible for the facility/operation where the mishap/close call occurred upon occurrence or awareness of the mishap/close call after emergency response has been initiated following the process described in NPR 8621.1.

5.11.2 The OSMA and SARD at NASA Headquarters shall be notified within 1 hour by the Center Safety Office following the process described in NPR 8621.1 if the mishap/close call is determined to be identified to include any of the following: 1) an occupational injury/illness resulting in a fatality, permanent or partial disability, hospitalization for inpatient care of three or more people within 30 workdays of the incident; 2) a potential total direct cost of mission failure or property damage equal to or greater than \$500,000; or 3) may be considered as a high-visibility event for NASA; or 4) results in a days away from work injury.

*NOTE: A follow-up email with additional information is normally provided to OSMA at NASA Headquarters after the initial phone call.*

5.11.3 The NASA Administrator shall be notified within 24 hours when it becomes known there is a work-related fatality or serious injury/illness to a NASA employee, resident non-NASA employee, or resident contractor, NASA reportable Type A, Type B or high-visibility mishap/close call.

*NOTE: The Center Director or designee may notify the NASA Administrator by phone and/or email.*

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5.11.4 The OSHA shall be notified by the Center Safety Office if the mishap/close call is determined to be a work-related OSHA reportable injury/illness and results in a death following the process described in NPR 8621.1.

5.11.5 OSMA and SARD are provided follow-up information for NASA reportable mishaps/close calls classified as Type A, Type B or high-visibility event and when OSHA is notified of a work-related reportable injury/illness.

5.11.6 OSHA shall be notified by the Contractor for contractor-related mishaps that require notification to OSHA following the process described in 29 CFR pt 1904. This notification is in addition to the notification to the Center’s Safety Office.

5.11.7 The Center’s Public Affairs Office shall be notified about casualties, damages and any potential hazards to the public when a Center incident may create a hazardous condition to areas outside of the Center’s jurisdiction.

5.11.7.1 The Center’s Public Affairs Office ensures mishap/close call and/or investigation information released to the public follows the process described in NPR 8621.1 and NASA regulations.

5.11.7.2 The Center’s Safety Office IRT may provide information to the Center’s Public Affairs Office of known hazards and their potential effects.

5.11.8 In cases where a mishap/close call is believed to be a result of criminal activity the Center’s Safety Office shall ensure the Center’s Office of Chief Counsel and NASA Office of Inspector General are notified.

5.11.9 Center Program/Project management shall ensure post-mishap/close call notifications are made following the processes described in their Center Program/Project MPCP.

5.11.10 Supervisor directly responsible for the facility/operation where the incident occurred and organization’s SHE POC and/or organization’s NMIS POC shall ensure their organization’s Director/Manager and deputies are notified of the incident.

5.11.11 The organization’s SHE POC or organization’s NMIS POC are notified of the mishap/close call by the Center’s Safety Office.

5.11.12 Center organizations shall ensure notifications of mishaps/close calls are made following the process described in section 5.4 if the mishap/close call involves contractors, grantees, Cooperative Agreement recipients, Space Act Agreement partners, or other types of agreements or leases that may occur while supporting their organization.

5.11.13 In cases when a mishap/close call occurs in an area outside of an organization’s assigned area the supervisor directly responsible for the activity that caused or contributed to the mishap/close call shall ensure the organizational management assigned the area is informed of the incident.

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5.11.14 At MAF, the MAF SMA Manager/QD12 ensures the post- mishap/close call notifications are made and coordinates these notifications with the Center’s MIPM, as needed.

## 5.12 Record Mishap/Close Call Information

5.12.1 NASA recordable mishaps/close calls shall be entered into NMIS within 24 hours of awareness or initial notification to Center’s Safety Office by the Center’s NMIS Administrator or organization’s NMIS POC following the process described in NPR 8621.1.

*NOTE: Contact the Center’s NMIS Administrator located in the Center’s Safety Office for assistance if needed.*

5.12.2 NMIS case files shall be updated by the Center’s NMIS Administrator or organization’s NMIS POC throughout the investigation as additional information (e.g., incident investigation report, CAP) becomes available following the process described in NPR 8621.1.

*NOTE: Follow-up information may be provided by the organization where the incident occurred, MSFC emergency response personnel, organizations assigned corrective actions, and others as it becomes available.*

5.12.3 Follow-up information is entered into the NMIS by the Center’s NMIS or organization’s NMIS POC as it becomes available and may be used to periodically provide status of open Center incident cases to Center management. (See sections 5.12, 5.22 and 5.24 of this MWI and MPR 8715.1 for more information on providing status to management.)

*NOTE: Contractors submit MSFC Form 4371 to provide contractor incident and safety statistics data. The data is for the previous reporting period and may include any or all of the following: man hours worked; mishaps/close calls, including days away from work injuries/illness; equipment or property damage including dollar losses; and current contractor days away from work injuries/illnesses frequency rate. The frequency (monthly or quarterly) for providing the MSFC Form 4371 is specified in the DRD for MSR in their contract. (See NFS 1852.223-70 for more information.)*

5.12.4 Medical information is provided by the Center’s Medical Center regarding the persons injured and nature of injuries as a result of the mishap/close call for inclusion in NMIS and the investigation report as needed.

5.12.5 Center organizations that have historically had a high number of mishaps/close calls are encouraged to designate an organization’s NMIS POC to perform NMIS-related functions for their organization. Contact the Center’s NMIS Administrator for more information.

5.12.5.1 Contractors may be required to identify an employee to serve in the role of the organization’s NMIS POC for their company when identified in DRD MSR for their contract. This role includes entering, tracking, and closing NASA reportable mishap/close calls into NMIS for their company. Contractors should review their contract to determine if they are to provide an organization’s NMIS POC.

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5.12.6 NMIS case files include, at a minimum: 1) the initial reported description of the mishap/close call; 2) the mishap/close call investigation report containing the information described in NPR 8621.1; 3) CAP and/or Action Requests; and 4) and other mishap/close call-related information gathered during the investigation and determined as relevant to the NMIS case by the Center’s NMIS Administrator or Center’s MIPM.

5.12.7 The Center’s OSHA Form 300A for recording Civil Service employee OSHA recordable injuries and illnesses is updated, posted and maintained by the Center’s Safety Office following the processes described in 29 CFR pt. 1904, NPR 8715.1, and MPR 8715.1.

5.12.8 Contractor OSHA Form 300A for recording Contractor employee OSHA recordable injuries and illnesses is updated, posted and maintained by the Contractor following the processed described in 29 CFR pt. 1904.

5.12.9 At MAF, the MAF SMA Manager/QD12 ensures NASA recordable mishaps/close calls are entered into NMIS within 24 hours of awareness or initial notification following the process described in NPR 8621.1 and this MWI.

### 5.13 Determine Investigation AO

5.13.1 The Investigation AO is determined based on the NASA reportable mishap/close call classification following the process described in NPR 8621.1.

5.13.2 The Investigation AO for NASA reportable mishaps/close calls classified as Type C, Type D, and those not considered as high-visibility close calls is the Center Director, but has delegated the role of the Center’s Investigation AO at MSFC to SMA and at MAF to the MAF Director.

5.13.2.1 At MSFC, the Center’s Investigation Appointing Official is normally the MSFC Safety and Quality Department Manager. At MAF, the Center’s Investigation AO may be the MAF Director or designee.

5.13.3 The initial information and facts gathered during the Center’s Safety Office preliminary investigation assists the Center’s MIPM in determining if appointment of a formal IA is needed for incidents classified as a Type C, Type D mishaps, and those not considered as high-visibility close calls.

5.13.4 The Center’s MIPM will discuss the preliminary investigation information with the Center’s Investigation AO in cases where the Center’s MIPM feels a more in-depth investigation may be needed. The Center’s Investigation AO will determine if an appointed IA is necessary. (See QD-IS-009 for more information.)

5.13.5 If an appointed IA is determined necessary the organization management where the mishap/close call occurred may be contacted by the Center’s Investigation AO for their assistance in recommending employees having the technical knowledge and expertise of the subject to participate in the subsequent investigation.

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5.13.6 The Investigation AO is encouraged to contact the Labor and Employees Relations Officer to ensure the Center is complying with the Collective Bargaining Agreement during the selection of appointed IA if union employees are designated to serve on an appointed IA.

5.13.7 The Investigation AO for Center Program/Project incidents occurring offsite are determined following the processes described in their Center Program/Project MPCP. (See MCP 8621.1 and NPR 8621.1 for more information.)

5.13.8 At MAF, the MAF SMA Manager/QD12 notifies the Center's MIPM if an appointed IA should be considered based on the initial information and facts gathered during the preliminary investigation.

#### 5.14 Select Appointed IA

5.14.1 A formal appointment memo shall be developed following the process described in NPR 8621.1 for an appointed IA.

5.14.2 An appointed IA membership is selected and operates following the process described in NPR 8621.1.

5.14.3 An appointed IA is normally an odd number. The size and membership of the appointed IA is dependent on the incident classification and scope of the investigation as determined by the Center's Investigation AO.

5.14.4 The appointed IA membership for Type C, Type D, and those not considered as high-visibility close call is normally a single investigator, but may be expanded to a Mishap Investigation Board/Team if deemed necessary by the Center's Investigation AO.

5.14.5 Appointed IA members are normally Civil Servant employees independent from or having no responsibility for the facility/operation where the mishap/close call occurred.

5.14.6 The Center's Safety Office shall serve as the IA in cases where an appointed IA is not selected by the Investigation AO.

*NOTE: Center Safety Office investigators do not participate in more than one type of investigation (NASA, contactor, outside authority) for the same incident or at the same time. See NPR 8621.1 or contact the Center's MIPM for more information.*

5.14.7 The appointed IA for Center Program/Project mishap/close calls occurring offsite are appointed following the processes described in their Center Program/Project MPCP. (See MCP 8621.1 and NPR 8621.1 for more information.)

5.14.8 At MAF, the MAF SMA Manager/QD12 notifies the Center's MIPM of appointed IA membership.

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## 5.15 Fund Appointed IA

5.15.1 Funding for Center mishap/close investigations shall be provided following the process described in NPR 8621.1.

*NOTE: At MSFC, IA members may contact the MSFC SMA Business Management Team for assistance in preparation of the Institutional Reserve Request (MSFC Form 4377) to submit to the Center's Office of Chief Financial Officer to request the necessary funding and Work Breakdown Structure charge code number created for the mishap investigation activity.*

5.15.2 Funding for Center Program/Project investigations is provided following the processes described in their Center Program/Project MPCP and NPR 8621.1. (See MCP 8621.1 for more information.)

5.15.3 At MAF, the funding for investigations follows the same or similar process as at MSFC.

## 5.16 Perform Investigation

5.16.1 Investigations shall be performed to the extent necessary to identify the contributing factor(s)/cause(s) of the mishap/close call with a goal of prevent recurrence of similar mishap/close calls in accordance with 29 CFR pt 1960.29 following the process described in NPR 8621.1 and this MWI.

5.16.1.1 A structured analysis technique may be necessary to aid in identifying the contributing factor(s)/cause(s).

5.16.2 An investigation does not begin until the incident site is safe and secure.

5.16.3 The investigation includes the following, as needed:

5.16.3.1 Collecting witness statements, both oral and written, from the employees that witnessed or were involved in the incident following the process described in NPR 8621.1.

*NOTE 1: Witnesses are encouraged to provide a written statement and these statements are designated as "privileged" and will be protected to the extent provided by law and only released by the appointed IA chairperson following the process described in NPR 8621.1. Witness statements are handled as privileged unless copies are provided to the witness. NASA cannot ensure privilege and confidentiality when witness statements are provided to the witness. (See Appendix E for more information.)*

*NOTE 2: Witness statements are obtained after actions have been taken to place the incident site in a safe condition and may be obtained by any of the emergency responders to the incident site (e.g., Center's PSO, Center's Safety Office, and other MSFC emergency response personnel).*

*NOTE 3: Witnesses should be informed that the information gathered during their interview will be treated as privileged as long as it is in the possession of the Government.*

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*NOTE 4: Witness statements and evidence may have been previously gathered by the IRT prior to the start of an investigation.*

5.16.3.2 Documenting the incident site by the use of photos, sketches or other method to the extent necessary.

5.16.3.3 Reviewing evidence collected or impounded by the IRT.

5.16.4 Preliminary investigations performed by the Center’s Safety Office may serve as the investigation for incidents classified as a NASA recordable mishap/close call as permitted by the Center’s MIPM. The preliminary investigation is normally permitted to serve as the investigation in cases when an appointed IA is deemed not necessary based on the information gathered during the preliminary investigation.

5.16.5 Contractors shall perform investigations as specified in their contract when their employees are involved in the incident or are directly responsible for the facility/operation where the incident occurred and provide the results of their investigation to the Center’s Safety Office or Center’s NMIS Administrator, or their organization’s NMIS POC for direct entry into NMIS. (Contractors see NFS 1852.223-70 and DRD MSR in their contract for more information.)

*NOTE 1: OSHA strongly encourages employers to investigate all incidents in which their workers are injured, as well as close calls, in which a worker may have been injured if the circumstances had been slightly different. See the OSHA webpage and enter “employer incident investigation” in the search bar for more information.*

*NOTE 2: Investigations performed by contractors directly responsible for the facility/operation are separate and independent from the investigations performed by an appointed IA or Center’s Safety Office. Contractor investigations provide additional information and are not intended to replace or supersede investigations performed by the Center’s Safety Office or Government-authorized investigation.*

5.16.6 Center organization and contractors directly responsible for the facility/operation where the mishap/close call occurred may be requested to provide an organizational representative to participate in the Center’s Safety Office or Government-authorized IA investigation.

5.16.6.1 Participation by a center organization or contractor in a Center’s Safety Office or Government-authorized IA investigation may include, but is not limited to, assisting in the investigation, locating witnesses, scheduling interviews, securing evidence, and providing documentation and information in the organization’s or contractor’s possession considered as relevant to incidents classified as a NASA recordable mishap/close call. (Contractors see NFS 1852.223-70 and the DRD MSR for their contract for more information.)

*NOTE: Relevant documentation and information may include, but is not limited to, the following: safety assessments; operating procedures; training and certification records; and information gathered as a result of a contractor investigation.*

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5.16.7 Incidents occurring off-Center and meeting the definition of a NASA reportable mishap/close call may be investigated by the contractor, organization directly responsible for the facility/operation at that location or outside authority. Contact the Center’s Safety Office for more information.

5.16.8 Traffic accidents occurring at the Center are investigated by the Center’s PSO in accordance with MPR 1600.1.

5.16.8.1 The Center’s Safety Office may perform a separate investigation or gather facts for inclusion in NMIS if the traffic accident results in the following: a work-related injury such as an employee traveling from one work location to another work location; damage to government owned vehicles; or damage to government owned or controlled property.

5.16.8.2 Incidents involving property loss and workplace violence are investigated by the Center’s PSO in accordance with MPR 1600.1.

5.16.9 When information gathered during the investigation identifies actions that require immediate action, possibly impacts other Centers or have NASA-wide implications, a MWAR may be generated following the process described in NPR 8621.1. (Contact the Center’s MIPM for more information.)

5.16.10 Center Program/Project incidents occurring offsite are investigated utilizing the processes described in their Center Program/Project MPCP. (See MCP 8621.1 and NPR 8621.1 for more information.)

5.16.11 At MAF, the MAF SMA Manager/QD12 ensures the investigations are performed following the processes described in NPR 8621.1 and this MWI.

## 5.17 Investigation Timeline

5.17.1 The timeline to complete an investigation is normally based on the classification of the NASA reportable mishap/close call and shall be determined by the Center’s Investigation AO for an appointed IA and the Center’s MIPM for non-appointed IAs.

5.17.1.1 The timeline for a formally appointed investigation is normally longer than the timeline for a non-appointed investigation.

5.17.2 The timeline to perform an appointed investigation and submit an investigation report to the Center’s Investigation AO does not exceed 75 calendar days unless additional time is granted by the Center’s Investigation AO. (See NPR 8621.1 for more information.)

5.17.3 The timeline to perform a non-appointed investigation and submit an investigation report to the Center’s MIPM does not exceed 30 calendar days, unless additional time is granted by the Center’s MIPM.

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5.17.4 The investigation may continue until the investigation report is submitted and concurrence is received from the Investigation AO for a formally appointed IA and from the Center's MIPM for non-appointed IAs.

5.17.4.1 The IA is released from the investigation when concurrence is provided for the investigation report.

5.17.5 At MAF, the MAF SMA Manager/QD12 ensures investigations are performed within the timeline described in NPR 8621.1 and this MWI.

## 5.18 Develop Investigation Report

5.18.1 An investigation report for Type C, Type D and those not considered as high-visibility close call shall be developed by the IA at the completion of the investigation following the process described in NPR 8621.1 and this MWI to include, at a minimum, the following information:

5.18.1.1 An executive summary/narrative description of the mishap/close call that includes who, what, when and where.

5.18.1.2 Description of injuries and/or property damage.

5.18.1.3 The cause(s) (proximate and/or root) that may have directly or indirectly contributed to the mishap/close call including environmental conditions and employee actions or lack of actions.

5.18.1.4 Findings and recommendations that are clear, verifiable, achievable, measurable, and traceable to at least one cause/contributing factor identified during the investigation and will prevent recurrence of similar mishaps/close calls in the future.

*NOTE 1: Corrective actions may be included in the investigation reports for Type C, Type D and those incidents not considered as high-visibility close calls when permitted by the Center's MIPM.*

*NOTE 2: Corrective actions are not assigned to an organization for implementation until the investigation is completed.*

5.18.1.5 Name/signature of IA, advisors/consultants as applicable.

5.18.2 The investigation report for an appointed investigation shall be provided by the IA to the Investigation AO for review/concurrence following the process described in NPR 8621.1.

5.18.2.1 An endorsement review/concurrence of investigation reports for non-appointed investigation is normally not needed. (See NPR 8621.1 for more information.)

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5.18.3 The Center’s Investigation AO is the final authority for acceptance or rejection for investigation reports provided by an appointed IA.

5.18.3.1 The Center’s MIPM is the final authority for the acceptance or rejection for investigation reports provided by a non-appointed IA.

5.18.4 In event of a non-concurrence with an investigation report rationale shall be provided by the Center’s Investigation AO for appointed investigations or Center’s MIPM for non-appointed investigations.

5.18.5 Contractors that perform an investigation as specified in their contract shall provide the results of their investigation to the Center’s Safety Office, Center’s NMIS Administrator or organization’s NMIS POC for direct entry into NMIS. (See NFS 1852.223-70, DRD for MSR in their contract for more information.)

5.18.6 Investigation reports developed by contractors or outside authorities will be accepted, but the acceptance of these investigation reports is not intended to replace or supersede the investigation reports developed by an appointed IA or non-appointed IA performed by the Center’s Safety Office.

5.18.6.1 The acceptance of investigation reports developed by contractors or outside authorities does not take the place of an independent investigation being performed by a formally appointed IA or non-appointed IA performed by the Center’s Safety Office.

5.18.7 Investigation reports developed by outside authorities for incidents that occur offsite are normally accepted as the investigation report if the report adequately cites factual events, causes and contributing factors from which findings and corrective actions are identified and a separate investigation is not beneficial.

5.18.7.1 The Center’s MIPM is the final decision in accepting or not accepting investigation reports developed by Center organizations, contractors or outside authorities.

5.18.8 Preliminary investigation reports developed by the Center’s Safety Office following the processes described in QD-IS-009 may serve as the investigation report with concurrence from the Center’s MIPM. The acceptance of the preliminary investigation report as the mishap/close call investigation report is normally permitted for non-appointed IAs.

5.18.8.1 At MAF, preliminary investigation reports developed by the Center’s Safety Office following the processes described in QD-IS-009, contractor or outside authority investigation reports may serve as the investigation report with concurrence from the MAF SMA Manager/QD12.

5.18.9 Release of investigation information and type of information released to employees and the public by the Center’s Safety Office or Center’s Public Affairs Office shall follow the process described in NPR 8621.1 and Center regulations for releasing information to the public.

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5.18.9.1 Original investigation data and records are not released, unless copies are made as needed and retained with the incident investigation records.

5.18.10 Investigation documentation and information may be treated as Sensitive But Unclassified information until released.

5.18.11 Investigation reports for Type C, Type D and those not considered as high-visibility close calls are normally not distributed.

5.18.12 Investigation reports developed by contractors and outside authorities may be in any format, so long as the report contains the information described in this section of the MWI.

5.18.12.1 Contractors, are permitted to use MSFC Form 4515, but are not required to use this form for their investigation report.

5.18.13 Investigation reports for Center Program/Project incidents occurring offsite are to follow the processes described in their Center Program/Project MPCP.

#### 5.19 Out-Brief Investigation Report

5.19.1 An out-brief of the investigation report and its associated findings and recommendations, is normally provided by the appointed IA to the Investigation AO following the processes described in NPR 8621.1.

5.19.1.1 Non-appointed IAs, such as the investigations performed by the Center's Safety Office, keep the Center's MIPM informed of the investigation information throughout the investigation, so an out-brief at the conclusion of the investigation is normally not necessary.

5.19.2 The investigation out-briefing, at a minimum, includes a description of the mishap/close call, the cause(s), and recommendations to prevent a similar mishap/close call from occurring in the future.

5.19.3 The appointed and non-appointed IA may be requested to present the investigation results to the Center's SHE Committee.

5.19.3.1 The presentation to the Center's SHE Committee may serve as the endorsement for incidents classified as Type C, Type D mishaps, and those not considered as high-visibility close calls and documented in the meeting minutes indicating the endorsement of an appointed IA as determined by the Investigation AO.

5.19.4 The Center's MIPM may periodically provide the status of all open Center NMIS cases to the Center's SHE Committee. This is one method of providing status to Center management of the Center's open NMIS mishap/close call cases.

5.19.5 Briefing of the investigation results for Center Program/Project incidents occurring offsite follow the processes described in their Center Program/Project MPCP.

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5.19.6 At MAF, the presentation may be to the MAF Executive Safety Committee or similar committee.

## 5.20 CAP Implementation

5.20.1 The CAP for an appointed IA shall be developed, when required, by the organization directly responsible for the facility/operation where the incident occurred, and submitted for concurrence or non-concurrence within 15 workdays from being tasked by the Center's Investigation AO following the process described in NPR 8621.1.

5.20.1.1 The CAP for an appointed investigation shall receive concurrence or non-concurrence from the Center's Investigation AO.

5.20.1.2 Corrective actions for a non-appointed investigation shall receive concurrence or non-concurrence from the Center's MIPM prior to designating an organization to implement the corrective actions.

5.20.1.3 Rationale shall be provided to the organization that developed the CAP in the event of a non-concurrence by the Center's Investigation AO.

5.20.2 Situations may arise during the implementation of an approved CAP where a change is necessary.

5.20.2.1 The organization submitting a change to the CAP for concurrence shall notify the Center's Safety Office of the change to the CAP.

5.20.2.2 After this review the changes will be forwarded to the Center's Investigation AO for concurrence. The Center's Safety Office is notified of concurrence or non-concurrence with the change prior to them verifying implementation of the CAP.

5.20.3 The CAP shall describe the actions to implement, the ECD for each action, organization designated to implement each action, and a method (matrix or other means) to match each corrective action to a finding or recommendation.

5.20.3.1 Additional time may be granted by the Center's Investigation AO to implement the CAP if reasonable rationale is provided in situations when a corrective action cannot be implemented within the ECD.

5.20.4 Periodic status, not to exceed 30 calendar day intervals, of the CAP shall be provided in NMIS by the organization designated to implement the corrective actions.

5.20.4.1 The periodic status may be provided to the Center's NMIS Administrator or direct entry into NMIS by the organization's NMIS POC in situations when the corrective actions cannot be implemented within the timeline specified in the CAP.

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5.20.5 The periodic status may include the following:

5.20.5.1 The reason the corrective action cannot be corrected within the specified timeline.

5.20.5.2 A description of the temporary measures taken to control the hazard.

5.20.5.3 A description of the long-term corrective action.

5.20.5.4 The ECD.

5.20.6 Periodic status of open NMIS case corrective actions for appointed investigations shall be provided to the Center's Investigation AO by the Center's NMIS Administrator when requested.

5.20.7 The Center's NMIS Administrator or organization's NMIS POC shall be notified by the organization designated to implement the CAP as actions are implemented.

5.20.8 Corrective actions listed in a CAP shall be verified by the Center's Safety Office as being implemented, completed and closed prior to the NMIS incident case file being closed by the Center's NMIS Administrator.

5.20.8.1 The corrective actions shall be periodically monitored by the Center's Safety Office and the organization directly responsible for the facility/operation to verify the effectiveness of the corrective actions to ensure they remain effective following the process described in NPR 8621.1.

5.20.9 Corrective actions may be included in the investigation report for non-appointed investigations, so long as the corrective actions are easily identified and written in a manner to evaluate/review a specific process or implement specific actions to prevent the recurrence of the mishap/close call.

5.20.10 Corrective action assignees shall be notified by the Center's NMIS Administrator when corrective actions are closed in NMIS.

5.20.11 CAP implementation and verification for Center Program/Project incidents occurring offsite follow the processes described in their Center Program/Project MPCP.

## 5.21 Lessons Learned

5.21.1 Lessons Learned shall be developed by the assigned organization within 10 working days of being tasked following the process described in NPR 8621.1, when requested by the Center's Investigation AO.

*NOTE: Lessons Learned are normally developed by the organization responsible for the facility/operation where the incident occurred. The Center's Safety Office may provide assistance to the organization in developing Lessons Learned.*

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5.21.2 Lessons Learned are developed using the following thought process:

5.21.2.1 Are based on information discovered during the investigation that has been identified as significant.

5.21.2.2 Are based on the findings and recommendations listed in the investigation report.

5.21.2.3 Provide information describing what actions or precautions are necessary to prevent similar incidents from occurring in the future.

*NOTE: Lessons Learned may be included in a NMIS case file and/or may be shown in a MSFC Safety Bulletin or ShopTalk as “what can you do.” Contact the Center’s Safety Office for assistance in developing Lessons Learned, as needed.*

5.21.3 Lessons Learned for Center Program/Project incidents occurring offsite follow the processes described in their Center Program/Project MPCP.

5.21.4 At MAF, the MAF SMA Manager/QD12 ensures Lessons Learned are developed, as needed, following the processes described in NPR 8621.1 and this MWI.

## 5.22 Close NMIS Case File

5.22.1 A NMIS case file shall not be closed until the information listed on the NMIS closure checklist has been recorded in NMIS and corrective actions have been verified by the Center’s Safety Office.

5.22.1.1 At MSFC, NMIS case files are closed the Center’s NMIS Administrator.

5.22.1.2 At MAF, NMIS case files are closed by the MAF SMA Manager/QD12.

5.22.2 Contractor NMIS cases may be submitted for closure review through the “Ready for Closure” section in NMIS.

5.22.3 Closed NMIS cases may be reopened by the Center’s NMIS Administrator to enter additional information as needed.

## 5.23 Pre-Acquisition Planning For Mishaps/Close Calls

5.23.1 Requirements for contractor reporting, recording, and investigating shall be coordinated by the Center’s Safety Office and/or Center’s MIPM with the Center’s Procurement Office in accordance with NFS 1807.

5.23.1.1 This pre-acquisition coordination follows the process described in NPR 8621.1 and occurs during the pre-acquisition planning and strategy meetings, and consists of input from the Center’s Safety Office and/or Center’s MIPM on which Center Safety Office DRDs are to be included in the solicitation.

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5.23.2 When the Center’s Safety Office and/or Center’s MIPM become aware of a proposed solicitation initiated by MSFC or another NASA Center for work on MSFC or MAF, they shall contact the MSFC’s Procurement Office or Program/Project Manager/Designee to ensure the requirements listed in section 5.23.1 of this MWI have been incorporated in the solicitation.

5.23.3 A MOA is a recommended method to formally document each Center’s role when a contractor incident occurs on a Center other than the Center that awarded the contract. The Center’s Safety Office will provide assistance in the development of the MOA to the Center organization being supported by the contractor.

5.23.4 Pre-acquisition planning for Center Program/Project involving work at offsite locations normally includes a representative assigned to the Center Program/Project to ensure incident reporting follows the processes described in their Center Program/Project MPCP.

5.23.5 At MAF, the MAF SMA Manager/QD12 coordinates with the Center’s MIPM to ensure the requirements for contractor reporting, recording, and investigating incidents are included in MAF solicitations following the processes described in NPR 8621.1 and this MWI.

## **6. CANCELLATION**

MWI 8621.1J, “Mishap and Close Call Reporting and Investigation Program,” dated August 17, 2015.

*Original signed by*

Todd A. May  
Director

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## **APPENDIX A DEFINITIONS**

The definitions below are specific to the Center. See NPR 8621.1 for a complete list of NASA mishap/close call-related definitions and for more information.

**Appointed Investigation** An investigation performed by an investigating authority that is formally appointed and officially sanctioned by the Center’s Investigation AO following the processes described in NPR 8621.1 and this MWI. This level investigation is a systemic and in-depth examination of details and facts to identify the events and conditions that directly/indirectly contributed or caused the incident.

**Appointing Official (AO)** The official authorized to appoint an appointed IA to investigate an incident, to accept the investigation of another authority, to receive endorsement and comments from endorsing officials, and to approve the mishap report.

**Center** NASA-owned property that has been designated as a NASA Center. In this MWI the Center is MSFC or MAF.

**Center’s NASA Mishap Information System (NMIS) Administrator** Employee(s) designated by the Center’s SMA organization to serve as the Center’s POC for the NMIS database and to work NMIS activities with organization NMIS POCs to resolve NMIS-related issues.

**Center’s Mishap Investigation Program Manager (MIPM)** Employee designated by the Center’s SMA organization to serve as the Center’s POC for Center incidents and provides guidance to Center AO and IA(s) in performing and documenting incident investigations.

**Center’s Protective Services Office (PSO)** The Center Office/Department/Branch that provides insight, oversight and coordination of security-related issues with internal and external organizations to ensure compliance is maintained with all applicable security-related Executive Orders, federal, state, local, NASA and Center regulations in accordance with NPR 1600.1. At MSFC, these functions are performed by the Office of Center Operations/PSO/AS50. At MAF, these functions are performed by the MAF Emergency Management/PSO Operations Manager/AS50 and the MAF PSO who ensure all protective service-related day-to-day functions identified in this MWI for PSO are performed.

**Center’s Safety Office** The Center Office/Department/Branch that provides insight, oversight and coordination of safety-related issues with internal and external organizations to ensure compliance is maintained with all applicable safety-related Executive Orders, federal, state, local, NASA and Center regulations in accordance with in NPR 8715.1 and NPR 8715.3. At MSFC, these functions are performed by the SMA Directorate/ISB/QD12. At MAF, these functions are performed by the MAF SMA Manager/QD12 and the Synergy Achieving Consolidated Operations and Maintenance contractor Safety and Health Services who ensure all safety-related day-to-day functions identified in this MWI for SMA and ISB are performed. The MAF SMA Manager/QD12 is commonly referred to as the MAF Site Safety Manager.

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Close Call An incident in which there is no or minor injury requiring first aid, or no or minor equipment or property damage (less than \$20,000), but which possesses a potential to cause a mishap.

Contractor An individual or vendor that has entered into an agreement to provide goods or services to MSFC.

Emergency A serious, unexpected, and often dangerous situation requiring immediate actions and response by emergency responders such as an ambulance or fire department. Emergencies include, but are not limited to, fire, explosions, chemical spills that are beyond an employee's training or ability to control, discovery of discarded/buried chemical munitions.

Emergency Responder Personnel that normally are the first to arrive at an emergency or mishap scene. These personnel are normally the Fire Department, Center's PSO officers, and similar emergency personnel.

First Aid See 29 CFR pt. 1904.7(b)(5) for the description of first aid.

Government-authorized investigation An investigation performed by the Center's Safety Office or an appointed IA.

High-Visibility Mishap or Close Call A mishap or close call, regardless of the amount of property damage or personnel injury, that the Administrator; Chief, Safety and Mission Assurance, Office of Safety and Mission Assurance; Center Director, Executive Director, Office of Headquarters Operations; Aircraft Management Division Director; or Center Safety and Mission Assurance Director judges to possess a high degree of safety risk, programmatic impact or public, media, or political interest including, but not limited to, mishaps and close calls affecting flight hardware or software, or completion of critical mission milestones.

Incident A general term used to describe an unexpected event, mishap or close call.

Investigating Authority (IA) The individual investigator, team or board authorized to conduct an investigation for NASA. The IA may be representatives from the Center's Safety Office for non-appointed IA and/or Center organization representatives for appointed IAs.

Medical Treatment See 29 CFR pt. 1904.7(b)(5) for the description of medical treatment.

Mishap An unexpected occurrence, event, or sequence of events that results in injury to personnel or damage to equipment or property. Sometimes referred to as an accident. (See NPR 8621.1 and MWI 8621.1 for more information.)

NASA Operation An activity or process under direct NASA physical, administrative, or contractual control or where significant NASA resources are dedicated to accomplishing an objective common to NASA and other independent organizations. This does not include non-

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NASA contracted or funded activities conducted at a common location or environment with NASA resources.

NASA Personnel Federal Civil Servants employed and paid by NASA, or on detail from other Federal agencies to NASA and NASA Contractors located onsite when used in this MWI.

NASA Reportable Mishap/Close Call An unplanned event resulting in at least one of the following: a) Occupational injury/occupational illness to non-NASA personnel caused by NASA operations; b) Occupational injury/occupational illness to NASA personnel caused by NASA operations; c) Destruction of or damage to NASA property, public or private property, including foreign property, caused by NASA operations or NASA-funded research and development projects; d) NASA mission failure before the scheduled completion of the planned primary mission. (See NPR 8621.1 for additional information.)

Non-Appointed Investigation An investigation performed by an investigating authority that is not formally appointed by the Center's Investigation AO. This level investigation is normally performed by the Center's Safety Office following the processes described in NPR 8621.1, this MWI, and QD-IS-009, but may also be an investigation performed by the Center organization and/or contractors directly responsible for the facility/operation where the incident occurred. These investigations are normally not as in-depth of an investigation as an appointed investigation, but still examine the details and facts to identify the events and conditions that directly/indirectly contributed or caused the incident.

Non-Emergency A situation that does not require immediate action or response by emergency responders such as an ambulance or fire department.

Offsite Property not owned, controlled or leased by MSFC.

OSHA Reportable Injury See 29 CFR pt. 1904 for the description of an OSHA reportable injury.

Organization's NMIS Point of Contact (POC) Employee(s) designated by organization management to serve as the organization POC for the NMIS database to enter mishap data, update the data as needed, track the NMIS case file to closure, and provide organization management with the status of any open or late NMIS action request.

Preliminary Investigation The initial visit and evaluation of a mishap/close call site performed by the Center's Safety Office representative to gather information and facts to provide to the Center's MIPM to assist the Center's Investigation AO in determining if an appointed investigation is needed.

Work-Related Incident See 29 CFR pt. 1904 for the description of a work-related injury/illness.

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## **APPENDIX B ACRONYMS**

AO	Appointing Official
AS	Office of Center Operations Code
CAP	Corrective Action Plan
CFR	Code of Federal Regulations
DRD	Data Requirements Description
ECD	Estimated Completion Date
FMO	Facilities Management Office
GRS	General Records Schedule
IA	Investigating Authority
IRT	Interim Response Team
IS	Office of Chief Information Officer Code
ISB	Industrial Safety Branch
MAF	Michoud Assembly Facility
MIPM	Mishap Investigation Program Manager
MOA	Memorandum of Agreement
MPCP	Mishap Preparedness and Contingency Plan
MSR	Mishap and Statistics Reporting
MWAR	Mishap Warning-Action-Response
NFS	NASA Federal Acquisition Regulation Supplement
NARA	National Archives and Records Administration
NMIS	NASA Mishap Information System
NRRS	NASA Records Retention Schedules
OSHA	Occupational Safety and Health Administration

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OSMA            Office of Safety and Mission Assurance

POC            Point of Contact

PSO            Protective Services Office

pt              Part

QD              Safety and Mission Assurance Directorate Code

SARD          Safety and Assurance Requirements Division

SHE            Safety, Health and Environmental

SMA            Safety and Mission Assurance

U.S.C          United States Code

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**APPENDIX C  
VERIFICATION MATRIX**

Section	Brief Description	Verification			Comments
		Inspect	Document	Test	
5.1	NASA Mishap/Close Call Descriptions		x		
5.2	MPCP		x		
5.3	Roles and Training in Incident Response and Investigation		x		
5.4	Reporting Emergency and Non-Emergency Incidents		x		
5.5	Notification of Incident		x		
5.6	Incident Reporting Information		x		
5.7	Incident Response		x		
5.8	Center's Safety Office Preliminary Investigation		x		
5.9	Post-Incident Drug Test		x		
5.10	Determine Incident Classification		x		
5.11	Post-Mishap/Close Call Notification		x		
5.12	Record Mishap/Close Call Information		x		
5.13	Determine Investigation AO		x		
5.14	Select Appointed IA		x		
5.15	Fund Appointed IA		x		
5.16	Perform Investigation		x		
5.17	Investigation Timeline		x		
5.18	Develop Investigation Report		x		
5.19	Out-Brief Investigation Report		x		
5.20	CAP Implementation		x		
5.21	Lessons Learned		x		
5.22	Close NMIS Case File		x		
5.23	Pre-Acquisition Planning for Mishap/Close Calls		x		

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**APPENDIX D  
RECORDS**

<b>RECORD</b>	<b>REPOSITORY</b>	<b>RETENTION</b>
Incident-related documentation (Electronic and Hard Copy)  <i>NOTE: Electronic may include the use of Compact Disk and other media designed to record and store data.</i>	Maintained per NPR 8621.1: <ul style="list-style-type: none"> <li>• Electronic maintained in NMIS.</li> <li>• Hardcopy maintained by the Center Safety Office.</li> </ul>	NRRS 1441.1 schedule 1/120/C, 1/121/B or 1/122. The exact retention used will be dependent on the of type mishap-related document.
Incident Investigation Training	Maintained per MPR 3410.1.	Per MPR 3410.1.
Program/Project Mishap Preparedness and Contingency Plan	Maintained by the Program/Project in accordance with NRRS schedule 8, Program and Project Records.	The exact retention used will be dependent on whether the specific program/project meets the criteria in NRRS 8/101 or not.
MSFC Institutional Reserve Request (MSFC Form 4377)	Maintained by the Center's Office of Chief Financial Officer.	NRRS 1441.1 Schedule 9/14.2/A, destroy when 2 years old.
OSHA Form 300A	Maintained by the Center's Safety Office.	GRS Schedule 1, item 34; destroy when 5 years old.

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**APPENDIX E  
READ TO WITNESS AT THE START OF FORMAL INTERVIEW**

The purpose of this safety investigation is to determine the proximate cause(s) and root cause(s) of the incident that occurred on \_\_\_\_\_ and to develop recommendations toward the prevention of similar mishaps. It is not our purpose to place blame or to determine legal liability. Your testimony is entirely voluntary, but we hope that you will assist the investigating authority to the maximum extent of your knowledge in this matter.

Your testimony will be documented and retained as part of the mishap report background files but will not be released with your name as part of the mishap report.

The investigating authority will make every effort to keep your testimony confidential and privileged to the greatest extent permitted by law.

For the record, please state your full name, title, address, employer, and place of employment.

*NOTE: Witness statements may be obtained by any of the emergency responders to the incident site (e.g., Center's PSO, Center's Safety Office, other emergency response personnel, and Investigating Authority).*