NASA Procedural Requirements

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Subject: NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping (updated w/Change 4)

Responsible Office: Office of Safety and Mission Assurance

| TOC | ChangeHistory | Preface | Chapter1 | Chapter2 | Chapter3 | Chapter4 | Chapter5 | Chapter6 | Chapter7 | Chapter8 | Chapter9 | AppendixA | AppendixB | AppendixC | AppendixD | AppendixE | AppendixF | AppendixG | AppendixH | AppendixI | AppendixJ | ALL |

Chapter 1. Readiness to Conduct Investigations

1.1 NASA Mishap and Close Call Descriptions

1.1.1 A NASA mishap is an unplanned event resulting in at least one of the following:

a. Occupational injury or occupational illness to non-NASA personnel caused by NASA operations or NASA-funded research and development projects.

b. Occupational injury or occupational illness to NASA personnel caused by NASA operations or NASA-funded research and development projects.

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.

1.1.2 A close call is an event requiring first aid treatment or less, or property damage or mission failure with a direct cost of less than $20,000, based on a worst case estimate by the responsible organization, but has NASA mishap potential. For Unmanned Aircraft System (UAS) events where the UAS damage cost is below $20,000 NASA responsible organizations report the event in the NASA Mishap Information System (NMIS) as a “Non-NPR 8621 event” to document the potential hazards of UAS operations. This includes any engineering analysis, findings and corrective actions from the event.

1.2 Mishap or Close Call Classification

1.2.1 The severity of the personnel injury and the direct cost of the mishap or close call (property damage or mission failure) determine the classification level of the mishap or close call (Table A).

1.2.2 The MDAA, CHMO, CD, and the AA, MSD or designees shall, within 24 hours, determine the mishap classification level for all mishaps within their jurisdiction and obtain concurrence on this classification level from the Chief, SMA for Type A and Type B mishaps and high-visibility mishaps and close calls. For Type C, D, or close call incidents, the CD may elect to assign Center High Visibility classification status per procedures contained in the Center MPCP.

Table A. Mishap Classification Levels

Classification Level	Property Damage	Injury

Type A Mishap	Total direct cost of mission failure and property damage of $2,000,000 or more, or Crewed aircraft or spacecraft hull loss, or Unexpected aircraft or spacecraft departure from controlled flight for all aircraft except when departure from controlled flight has been pre-briefed (e.g., upset recovery training, high Angle of Attack (AOA) envelope testing, aerobatics, or Out of Controlled Flight (OCF) for training) or mitigated through the flight test process inherent at each Center.	Occupational injury or illness resulting in A fatality or A permanent total disability.
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 or illness resulting in A permanent partial disability or Hospitalization for inpatient care of three or more 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 OSHA-recordable occupational injury or illness resulting in days away from work, or restricted duty, or transfer to another job beyond the day or shift on which it occurred. or Hospitalization for inpatient care of one or two people within 30 workdays of the mishap.

Type D Mishap	Total direct cost of mission failure and property damage of at least $20,000, but less than $50,000.	Nonfatal OSHA-recordable occupational injury or illness that does not meet the definition of a Type C mishap.
Close Call	Total direct cost of mission failure and property damage of less than $20,000, but event has the mishap potential using a worst case estimate.	Injury requiring first aid or less, but event has the mishap potential using a worst case estimate.

1.2.3 The CD or Program/Project Manager, with review and concurrence of the cognizant Safety Office, shall calculate the direct cost of a mishap or close call. Calculations are done by adding all of the actual or estimated costs of damaged or destroyed property, mission failure, lost commodity (e.g., the cost of the fluid lost from a ruptured pressure vessel), and resultant costs such as environmental decontamination, property cleanup, and restoration. Estimated costs are calculated by using the greater of the actual or the fair market value. Actual repair or replacement costs, labor (i.e., the actual value of replacement or repair hours for internal and external or contracted labor) should be included in calculations.

Note 1: The initial estimate of the direct cost is calculated in the first 24 hours because the Appointing Official (AO) uses this estimate to determine the classification of the incident and the resources to allocate to the investigation. The final direct cost is calculated as the damage assessments are completed and are incorporated into the mishap investigation report. The final mishap classification level could change based on the final estimate of the direct cost. The IA ex officio verifies interim costs upon completion of investigation and that cost has been included and meets the guidelines in this NPR. This figure is subject to correction or validation by the official responsible for authorizing closure of the mishap record. Upon mishap closure, the cognizant Safety Office either confirms final cost or modifies based on most current cost information. Note 2: Replacement cost to purchase commercially available part or manufacture custom part as needed is considered an equivalent replacement. Note 3: The direct cost of the mishap or close call includes the actual costs of replacement parts as if these were purchased new. Note 4: Indirect costs that would not be part of a direct cost calculation include:

1. Cost of expended emergency response or supplies.
2. Training and compensating replacement personnel.
3. Workers' compensation costs.
4. Medical treatment costs.
5. Lost productivity including lost use of damaged equipment.
6. Depreciation of damaged equipment.
7. Cost of the safety mishap investigation to include analysis, inspection, and travel.
8. Schedule delays.
9. Legal liability costs and fines.
10. Insurance costs.
11. Corrective or preventive action costs.
12. Costs associated with incident reporting and recordkeeping.

1.2.4 The responsible program manager or designee, in coordination with the cognizant Chief Financial Officer or designee, shall calculate the cost of a mission failure by determining the cost of the "unique" mission from Mission Approval (reference NPR 7120.5, Key Decision Point C) through project closeout, including consumables (e.g., fuel), launch costs, and dedicated institutional support costs such as the Deep Space Network, NASA Engineering and Safety Center, Independent Technical Authority, or others.

Note 1: Example of mission failure—The launch vehicle loses a main engine on ascent and fails to

deliver its payload to its intended low-Earth orbit. The preapproved minimum mission success criteria are obviously unmet. The cost of this mission failure would be the cost of the launch vehicle processing and operations (labor and consumables) dedicated to this mission and the entire payload cost accrued since its approval (Key Decision Point C or equivalent). Note 2: Example of incident not considered a mission failure—The Mars Exploration Rover Spirit fails long after it has met its minimum success criteria (minimum mission objectives). This would not be classified as a mission failure, so no cost would be assigned. The program manager may choose to investigate this failure, but there would be no cost assigned.

1.2.5 The following situations are not considered NASA mishaps or close calls:

a. Illnesses or fatalities resulting from natural causes or those unrelated to the work environment when disease, not injury, is the cause of lost time (e.g., diabetes and resultant complications, loss of vision).

b. Injuries or illnesses that are determined to be unrealted to the work environment after investigation. (e.g., confirmed Standard Threshold Shift (STS) in hearing, (COVID illness, etc.)

c. Intentional self-inflicted injuries or fatality.

d. Injuries or fatalities resulting from altercations, attack, assault—unless incurred in the performance of official duties such as criminal investigations—or homicide.

Note: Incidents involving personnel injured as a result of violence in the work environment will be reported to the Department of Labor in accordance with Recording and Reporting Occupational Injuries and Illnesses, 29 CFR pt.1904.

e. Destruction of or damage to any property (public, private, or Government) onsite at a Center or involving NASA property on grounds outside Center property (i.e., including contractor sites) as a direct result of:

(1) Weather conditions such as hurricane, lightning, tornado, high winds, dust storm, tidal wave, tsunami, waterspout, or ice or snow loads.

Note: Damage to aircraft or hazardous conditions encountered in flight as a result of any of the above-mentioned weather conditions, as well as a bird or animal strike will be treated as a mishap or close call. Non-damaging bird or wildlife strikes are entered into NMIS as a "Non-NPR 8621" event. All bird strikes, regardless of damage, are also reported to the Federal Aviation Administration (FAA) or the Department of Defense (DoD) for inclusion in the national bird strike database.

(2) Natural phenomena such as flood, landslide, earthquake, meteorite impact, or volcanic eruption.

(3) Wildfire.

(4) Vandalism, riot, civil disorder, or felonious act such as arson or, in some cases, theft.

Note 1: In cases where weather, natural phenomenon, wildfire, vandalism, riot, civil disorder, or a felonious act is the proximate cause, the event is exempt from the mishap classification. However, if the weather, for example, was an intermediate cause or a contributing factor to a mishap, then this exemption to mishap classification does not apply. Note 2: Damage to NASA aircraft, vehicles, or other property occurring after an aircraft or vehicle has been stolen is not reportable as a mishap. Damage to NASA aircraft, vehicles, or other property occurring when an individual misappropriates an aircraft or vehicle not authorized to be flown or driven by the individual will not be reported as a NASA mishap.

f. An intentional and controlled jettison or intentional and controlled release during flight of canopies, cargo, doors, drag chutes, hoist cables, hatches, life rafts, auxiliary fuel tanks, missiles, drones, rockets, and externally carried equipment not essential to flight when there is no injury, illness, or reportable collateral damage. In the case of missiles or drones, when the reason for jettison is not malfunction or unintentional.

g. Incidents occurring during the non-space flight transportation of NASA material by commercial carriers when NASA or NASA contractors had no roles or responsibilities for packing, securing, or transporting the items.

Note: If NASA or a NASA contractor was responsible for the safety of the transport or performed any activities related to securing or transporting the material, the incident should be evaluated to determine if it was a NASA mishap or close calls.

h. Incidents involving aircraft operated as civil use, owned by civil operators, and accomplishing contract air missions for NASA where there is no NASA property damage or Federal employee injury.

i. For CubeSats/Deployers and NPR 8705.4 Class D Payloads, certain events are investigated at the discretion of the implementing Center or NASA Responsible Directorate:

(1) Damage or loss of data involving CubeSats/Deployers (secondary payloads) and NPR 8705.4 Class D projects, or data flown on launch services procured by the NASA Launch Services Program (LSP) and that do not affect the primary mission in any manner.

(2) Damage or loss of data involving CubeSats/Deployers and NPR 8705.4 Class D projects, flown on dedicated launch vehicles, where such hardware is considered experimental, and their success is not a critical factor in determining the success of the mission.

(3) Damage to or loss of CubeSats/Deployers and NPR 8705.4 Class D projects dedicated launch vehicle hardware.

j. Damage to NASA equipment residing offsite that is leased, on bailment, or loaned to contractors, commercial airlines, other Government agencies, or foreign governments when the lessee has assumed risk of damage or loss.

k. A malfunction or failure of component parts normally subjected to fair wear and tear and having a fixed useful life less than the fixed useful life of the complete system or unit of equipment, provided both of the following are true:

(1) Scheduled preventative maintenance was performed.

(2) The malfunction or failure of the component was the only damage, and the sole action is to replace or repair that component. (This does not apply to a malfunction or failure of a component part resulting in a fatality, injury, or damage to another component or a facility.)

l. Test-induced damage is not considered a mishap if all of the following are true:

(1) The test-induced damage did not result in:

(a) Injury, illness, or fatality.

(b) Damage to public property, other Government agency property, or private property (e.g., a privately owned vehicle) regardless of the property's location.

(c) Hazardous hardware debris leaving the test cell, test chamber, protected facility, pre-determined debris field, or test range unless the release could have resulted in injury, illness, or death.

(2) The facility and test equipment functioned properly except when the facility or test equipment functionality itself is being tested as part of approved test objectives.

(3) Damage is limited to test articles or test facilities, and the risk of damage was formally documented and accepted by signature before the test. The type or general category of test-induced damage (i.e., water damage, structural failure, or thermal overload) was documented as a designed and intended or potential outcome of the test, and the risk of the test-induced damage, including related uncertainties, was formally accepted by the appropriate authority. Depending on the test, the appropriate authority may be the owner of the damaged property or the person responsible for funding replacement of damaged equipment (e.g., the owner of the test article, test support equipment, test cell, chamber, pad, or protected facility, or the range, project, or program manager).

Note: Refer to Appendix C for more information on test-induced damages.

1.3 Mishap Preparedness and Contingency Plans

1.3.1 Center Directors (CDs) and Program/Project Managers shall address the following elements in their Mishap Preparedness and Contingency Plans (MPCPs):

Note: All space flight MPCPs and appropriate annexes should be delivered to OSMA, Missions and Programs Assessment Division, and the NASA Safety Center Mishap Program Executive at least ten business days prior to the Safety and Mission Success Review (SMSR), or equivalent milestone.

OSMA will work with the Program/project to review and concur prior to SMSR. SMSR is generally held one month prior to launch.

a. An expiration date not to exceed five years from the effective date.

b. Organizational responsibility for establishing mishap investigations.

c. Notification, reporting, investigating, recording, and preparedness policies and procedures for local and offsite mishaps and close calls.

> *Note: This includes, but is not limited to, contact information for the offices, individuals, or both with responsibility for performing required tasks listed in this NPR. Required tasks can include, for example, contacting the NASA Office of Safety and Mission Assurance (OSMA) after a mishap; gathering resources and securing a facility; placing reports in the NMIS; maintaining required data in this system; and retaining hardcopy records.*

d. The relationship between the Center Emergency Management Plan, the Center MPCP, and any related Program/Project MPCPs and which plan takes precedence given specific conditions.

> *Note: Communication with local emergency responders regarding imminent danger and immediate response should be addressed in the Center Emergency Management Plan.*

e. The frequency interval for mishap response simulations covered by the Center MPCP and the Program/Project MPCP. The simulation frequency for Center and Program plans should not exceed one year. The simulation of Project plans may be less frequent, depending on the complexity of the Project's MPCP.

f. Training requirements for an Interim Response Team (IRT) and Investigating Authority (IA) members consistent with paragraph 1.5 of this NPR.

g. Procedures to deploy an IRT.

> *Note: A NASA Federal employee will serve as IRT lead (cognizant safety representative) and impound coordinator and will initiate collection of witness statement documentation. Even as these duties may not require immediate presence at the mishap scene, they nevertheless include accountability for collected and preserved evidence.*

h. The impoundment process for records and equipment that may be involved in the mishap including:

(1) A list of organizations authorized to impound such evidence and secure onsite at a Center and offsite mishap locations.

(2) The location where impounded data, records, and equipment, including electronic media, are stored and secured during an investigation of either onsite at a Center or offsite mishaps.

(3) Steps for release of impounded data, records, equipment, facilities, and mishap site.

i. The appointment of an IA—a Mishap Investigator (MI), Mishap Investigation Team (MIT), or Mishap Investigation Board (MIB).

j. Delegation of authority and resources, including funding and funding organizations, for assigned IRT and potential IA members so they may expeditiously deploy to the mishap scene; effectively preserve mishap evidence; interview witnesses; and conduct an orderly investigation without administrative delay. Resources include, but are not limited to, travel, contractual authority, salaries, facilities, computer equipment, video equipment, and supplies.

k. Funding for the IRT or IA, advisors, consultants, interviewee travel, laboratory analysis, and others' support required by the IA.

l. Access to support and experts who can facilitate the immediate support, acquisition, or purchase of products needed by the IRT or IA (e.g., high-resolution cameras, recording devices, software, and

others).

m. Mishap investigation report approval process for Center-processed Types C, D, and close call mishaps.

n. Medical jurisdiction for fatalities that may occur on NASA property.

Note 1: NASA Office of the General Counsel and local coroner need to be consulted to determine jurisdiction and arrangements for forensic analysis.

Note 2: Certain religious denominations forbid autopsies.

o. CD or Associate Administrator, Mission Support Directorate (AA, MSD) next of kin notification regarding fatalities and injuries. Only the Johnson Space Center CD will do astronaut next of kin notification.

p. Headquarters Office of Communications (OCOM) notification of the public for casualties, performed in accordance with local CD or AA, MSD protocols, involving NASA employees or military and other Federal personnel, including astronauts, detailed to NASA.

Note: For NASA aircraft incidents, refer to section 8.1.1.

q. For Type C/D/Close Call classification, a worst-case estimate of potential outcome from the responsible organization within 72 hours of occurrence to determine whether to conduct a Center High Visibility investigation.

r. For Center High Visibility investigations, additional Center-specific requirements for IRT and IA activities above and beyond routine Type C/D/Close Call investigations.

Note 1: To achieve full value in Center High Visibility investigations, a structured causal analysis method should be used, and a system/process description should be included with sufficient details to identify all safety controls and barriers in place as evidence at the time of the incident. Note 2: When the Project Manager conducts attempted recovery of lost on-orbit or extraterrestrial mission capabilities from an undesired event, multiple attempts to enact planned or unplanned contingency actions may occur before the project declares a mishap has occurred.

s. Investigation and debris collection process required for any mishap or close call occurring in or out of the country.

t. International, national, State, and local organizations and agencies that are most likely to take part in debris collection; identification of roles and responsibilities for each organization; and points of contact. Bilateral or multilateral agreements procedures for mishap investigation when the program involves international partners, program managers, and project managers.

u. Other Government agencies' resources possibly needed during a Type A or Type B mishap or high-visibility mishap or close call (Table A) investigation; points of contact and contact information for each of these agencies; procedures to acquire agency assistance; and probable roles and responsibilities for each agency (e.g., Federal Emergency Management Agency [FEMA], NTSB, Department of Defense, FAA, or Department of Justice).

v. The names of key personnel from NASA OCOM and the Office of International and Interagency Relations (OIIR) to be notified for all Type A and Type B mishaps.

w. For NASA aircraft owned by NASA Centers, the NASA response to incidents during project missions regardless of duration or distance away from the home Center.

1.4 Roles and Responsibilities

Note 1: The Administrator, Deputy Administrator, Associate Administrator (AA), Chief Health and Medical Officer (CHMO) Associate Administrator for the Office of International and Interagency Relations (AA/OIIR), Associate Administrator for the Office of Communications (AA/OCOM), and the Office of the General Counsel have unique responsibilities for international mishaps and contingencies, as specified in section 2.2.4. Note 2: OCOM, AA/OCOM, CD, Center Public Affairs Office (PAO), and AA, MSD have unique responsibilities for the release of public information, as specified in section 2.2.5.

1.4.1 CD and AA, MSD.

1.4.1.1 CD and AA, MSD shall develop the Center MPCP and include the content specified in section 1.3. The CD and AA, MSD are responsible for funding and supporting Center MPCPs in conformance with this NPR. This includes requirements to notify, report, investigate, and record mishaps and close calls that fall within CD and AA, MSD jurisdiction. The CD and AA, MSD (or delegate) are the approval authority for Center MPCPs.

1.4.2 The Mission Directorate Associate Administrator (MDAA).

1.4.2.1 The MDAA is responsible for developing an MPCP per 1.3.1 at the Mission Directorate (MD) level.

1.4.2.2 The MDAA is responsible for ensuring program/project managers develop and implement Program/Project MPCPs in conformance with this NPR. This includes procedures to notify, report, investigate, and record mishaps and close calls associated with programs and projects that fall under MDAA responsibility.

1.4.2.3 The MDAA is responsible for ensuring international partner joint program agreements and other Federal agency agreements incorporate the mishap and reporting elements of this NPR.

1.4.2.4 The MDAA is responsible for ensuring mishap plans are consistent and complementary across "loosely coupled" programs.

1.4.3 CD and Program/Project Managers shall:

1.4.3.1 Support and utilize Center and HQs requirements in the development of the Center MPCP, Program/Project MPCPs for programs and projects that have activities at the Center, contract clauses, and mishap investigation training.

1.4.3.2 Ensure Center employees are familiar with the roles and responsibilities, as documented in the Center MPCP and this NPR, and that IRT and IA personnel complete the training required in section 1.5.

1.4.3.3 Review and provide concurrence that all program/project plans include any required program/project-specific information and procedures not covered in the Center's MPCP (e.g., special procedures for safing, handling, or containing hazardous chemicals present in program or project hardware).

1.4.3.4 Maintain an updated list of all Center personnel who have training and experience in mishap investigation including information such as relevant training courses, dates of training, and recent participation in a mishap investigation.

1.4.3.5 Forward copies of Center and Program/Project MPCPs to the OSMA Mishap Investigation Program Executive as soon as the plans are approved.

1.4.4 The Program/Project Manager.

1.4.4.1 The Program/Project Manager is responsible for the implementation and funding of the Program/Project MPCP in coordination with applicable Centers' MPCPs and with the appropriate NASA HQ Offices, which include, at a minimum, the MDAA, General Counsel, OSMA, OCOM, and OIIR, before its final approval.

Note: Program approval of NASA spaceflight Program/Project MPCPs is required prior to each project's applicable readiness review as defined in NPR 7120.5, NASA Space Flight Program and Project Management Requirements.

1.4.4.2 The Program/Project Manager shall develop the Program/Project MPCP and include the content specified in section 1.3. This includes requirements to notify, report, investigate, and record mishaps and close calls that fall within Program/Project jurisdiction.

1.4.5 The Office of Procurement.

1.4.5.1 The Office of Procurement is responsible for incorporating applicable mishap and close call reporting and investigating procedures and corrective action requirements detailed in the Safety and Health Measures and Mishap Reporting, NFS 1852.223-70 into contracts, agreements, and grants covering NASA programs and operations.

1.4.5.2 The Office of Procurement shall consult the cognizant Safety Office in the acquisition strategy planning activities for proposed contracts as detailed in the Federal Acquisition Regulations System, 48 CFR , NFS pt. 1807.

Note: See Appendices E and F for detailed procedural and positional sequencing, respectively, for

notification and investigation.

1.5 Training

1.5.1 CD and Program/Project Managers shall ensure IRT personnel complete training that consists of:

a. NASA IRT Training.

(1) Center/Program/Project IRT Responsibilities.

(2) General Hazard Awareness.

(3) Go-Kit Items and Use.

(4) Securing a Mishap Site.

(5) Witness Identification.

(6) Witness Statement Collection.

(7) Drug Testing Requirements and Procedures.

(8) Evidence Impoundment and Chain of Custody.

b. NASA Mishap Investigation Process Awareness.

Note: Satisfied by SMA-002-07 Overview of Mishap Investigations; SMA-002-08 Mishap Investigation Roles and Responsibilities; SMA-002-009 Completing the Investigation and Mishap Report; and SMA-002-10 Introduction to Root Cause Analysis (valid for five years); and SMA-002-11 Interim Response Team Training

c. Local Hazard Awareness.

Note: Each Center, Program, or Project should customize personnel training to address exposure to serious workplace hazards created by sources unique to local activities and conditions beyond general hazard awareness. Hazard awareness training may include, but is not limited to, blood-borne pathogens, confined space, working at heights, and hazardous materials.

1.5.2 IA Training.

Note: It is recommended that IA members complete the total training in section 1.5.2.

1.5.2.1 IA members should be familiar with training in the NASA mishap investigation policy and process.

Note: The series of NASA online courses meets this requirement: SMA-002-07 Overview of Mishap Investigations; SMA-002-008 Mishap Investigation Roles and Responsibilities; SMA-002-009 Completing the Investigation and Mishap Report; SMA-002-11 Interim Response Team Training, and SMA-002-10 Introduction to Root Cause Analysis (within the last five years).

1.5.2.2 CD and Program/Project Managers shall ensure that at least one voting member and the ex officios have experience in:

a. The content of this NPR (See note in 1.5.2.1).

b. Conducting witness interviews.

c. Creating timelines; documenting facts; generating fault trees; performing barrier analysis; conducting change analysis; creating event and causal factor trees; obtaining forensic analysis; integrating evidence; determining findings; generating recommendations; and producing mishap investigation reports.

Note: Course numbers SMA-SAFE-OSMA-4003 or SMA-002-14 in the System for Administration, Training, and Educational Resources for NASA (SATERN) NASA Root Cause Analysis within the last five years meet this requirement.

d. If appointed as a Mishap Investigation Board Chair with no prior NASA mishap training, the appointed chair is to take the MIB Chair course, SATERN course SMA-002-13.

1.5.2.3 CD and Program/Project Managers shall ensure Human Factors members and ex officios complete training in:

a. Human Factors Mishap Investigation Principles and Practices.

Note: The online course SMA-001-07 Introduction to Human Factors in Mishap and Close Call Investigation meets this requirement for all IA members except Human Factors investigator and ex officio. Classroom training SMA-SAFE-OSMA-4004 Human Factors in Mishap Investigation or SMA-002-15 (SATERN) within the last five years meets this requirement. The Mishap Investigation Program Executive or assignee may approve educational study or degree equivalent.

b. Basic knowledge of physical and psychological processes, capabilities, skill levels, and limitations of humans, such as the science and practical application of cognitive psychology, human reliability, anthropometrics, biomechanics, and human factors engineering applications to design.

Note: SMA-SAFE-OSMA-4004 Human Factors in Mishap Investigation (within the last five years) meets this requirement. The Agency Mishap Investigation Program Executive or assignee may approve educational study or degree in Human Factors as equivalent.

1.5.2.4 CD and Program/Project Managers shall ensure:

a. The Safety member has completed training in maintaining the security of the mishap site.

b. All advisors and voting members have technical knowledge and completed training in areas required to support the IA.

Note: Refer to Appendix D for a summary of mishap investigation training that meet the requirement of this document.

| TOC | ChangeHistory | Preface | Chapter1 | Chapter2 | Chapter3 | Chapter4 | Chapter5 | Chapter6 | Chapter7 | Chapter8 | Chapter9 | AppendixA | AppendixB | AppendixC | AppendixD | AppendixE | AppendixF | AppendixG | AppendixH | AppendixI | AppendixJ | ALL |

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