

MPR 8500.2

REVISION G-4

EFFECTIVE DATE: November 30, 2017

EXPIRATION DATE: November 30, 2022

MARSHALL PROCEDURAL REQUIREMENTS

AS01

MSFC ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

With Change 4 (8/18/20)

COMPLIANCE IS MANDATORY

DIRECTIVE IS UNCONTROLLED WHEN PRINTED

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Change/ Revalidation/ Canceled)	Document Revision/ Change	Effective Date	Description
Baseline		10/21/2005	Document created to satisfy requirements in NPR 8553.1, "NASA Environmental Management System (EMS)," and to facilitate maintenance of an EMS at MSFC.
Revision	A	8/11/2006	Added a "stop work" authority to section 3.10.3. Changed all EEMO references to EEOH. Updated 4.1.6 to specify that Audit Report is kept by the MSFC Internal Audit Manager.
Revision	B	11/7/2007	Clarified the scope of the EMS in section P.2 in accordance with ISO 14001 requirements. Revisions tied to NCR 919. Minor editorial changes included in revision.
Revision	C	8/12/2008	Revised 2. Applicability statement to specify that this directive is not applicable to the Michoud Assembly Facility. Modified 2. Applicability statement in accordance with Center direction. Modified section 3.3 to address how "other" requirements are identified and addressed by EEOH in its evaluation of compliance in response to NCR 1046. Modified responsibilities of the EMS Coordinator and added EEOH Program Manager to section 2.
Revision	D	3/31/2009	Deleted all references to AS10-OI-008, "Internal Environmental Management System (EMS) Conformance Audits," since MPR 1280.6 "Management System Internal Audits" now includes internal audits of the Environmental Management System. Made minor editorial changes throughout. Added definition for <u>EEOH Program Manager in Section 1</u> . To address NCR 1101: modified paragraph 3.12.3.3 to reference MPR 8730.5, "Control of Inspection, Measuring, and Test Equipment;" deleted MWI 8730.1, "Equipment Logs/Records" from P.4 Applicable Documents since this document is specific to flight hardware; and deleted "equipment logs/records" from Section 4 Records since these type records are not needed or specified within this document. Removed the requirement in Section 4 Records to manage internal communications as records since this is not an ISO 14001 requirement. Edited Section 4 Records to specify communication with "regulatory agencies" instead of "external parties." Added a "responsible organization" statement to section 3.3. Added a review minimum for EMPs in section 3.5. Edited Section 4 to resemble the current AS10 Records Plan. Combined environmental management programs, objectives, and targets in section 4.1.2. In response to NCR 1159, added paragraph 3.3.7 to address "other requirements" applicable to organizations outside of EEOH functional control. In paragraph 3.16, specified how metrics are reported to NASA Headquarters. [On 2/1/10, at the request of the OPRD, administrative changes were made at P.2 to update to latest applicability statement, at P.3 b. to add citation, at 3.2.6 and 3.3.4 to update urls, at 4. Records to point to the AS10 List of Records (with Center Records Manager's approval), and update IMSB to IMSC throughout.] [On 3/22/11, at the request of the OPRD, administrative changes were made on cover to delete "Manual" from title, in header to delete "Manual" from title, at P.5 to move contents of references to Appendix A, in 3. Procedures to move 3.2.5 to 3.2.2.1, re-number 3.2.4 to 3.2.3.1 and 3.2.6 to 3.2.3.2, and add 3.8.1.12, in 4. Records reword 4.7 and 4.8 for clarity, throughout to edit hyperlinks, and edit for MWI 1410.1 template and format compliance.]
Revision	E	1/16/2013	Minor edits to provide updates. Updated the Applicability statements. Updated 3.3.7 Other requirements. Added Measurement in P.5. Added communication methods to 3.8.1 Internal Communications. Revised 3.14 Nonconformance and Corrective and Preventive Action. Revised appendix A. Re-formatted to comply with new required template per MPR 1410.2J & as instructed in MWI 1410.1F.

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Change	1	3/25/13	At the request of the OPRD, an administrative change added a new paragraph at P.2b., to fulfill requirement 4.1 of ISO Standard 14001. P.2 Applicability re-numbered and page numbers increased.
Change	2	5/17/13	On 5/17/13, at the request of the OPRD, an administrative change was made at P.4 and 2.11.1.2, changing MPR 1040.3, "MSFC Emergency Plan "to "IMSB-Plan-1040.3." Removing MPR 1040.3 from Appendix E.
Change	3	7/19/13	On 7/19/13, at the request of the OPRD, an administrative change was made at P.4 and 2.11.1.2, changing "IMSB" to "IMSC." At 2.2.2.1, 2.4.5, 2.4.6, 2.5.5, 2.7.8, 2.8.3.4, and 2.13.2.3, "Section 4" was changed to "Appendix D." At 2.6, was changed from "Structure and Responsibility" to "Roles and Responsibilities." At 2.6.1, "Section 2" was changed go "Chapter 1."
Change	4	1/17/14	On 1/17/14, at the request of the OPRD, an administrative change was made to change MWI 1380.1 to MPR 1380.4 throughout the directive and update the title of MPR 1410.1.
Revision	F	6/11/2015	Minor edits to provide updates. Deleted all references to AS10-OI-001, "Consolidated Environmental Response Plan (CERP), as the document is now broken into three separate documents. AS10-OI-058, "Resource Conservation and Recovery Act (RCRA) Contingency Plan," AS10-OI-059, "Spill Prevention, Control, and Countermeasures Plan" were added and explained in section 2.11.1.3. Updated 2.3.7 and 2.4.4 to provide clarity. Removed the requirement in 2.15.1 and 2.15.2, to present to the IMSC since this is not an ISO 14001 or NPR 8553.1. Amended Appendix E, References, changed web site links to ExplorerNet links.
Change	1	8/26/2015	On 8/26/15, at the request of the OPRD, administrative changes were made to remove reference to ISO 14001 in P.2 Applicability, Appendix A and Appendix B. Updated document titles in P.2, P.4, 2.11.1.2, 2.11.1.3, Appendix B and Appendix E. Updated links.
Change	2	2/28/2017	On 2/28/17, at the request of the OPRD, administrative changes were made to correct a web link, minor word edits to section 2.3, Legal and Other requirements, addition of Cultural Resources to Section 2.3, Legal and Other Requirements, edits to section 2.8, Internal Communication, to update examples of current methods of communications used at MSFC, removed MPR 8715.12 from References, as it is listed in Applicable Documents.
Revision	G	11/30/2017	EMS reporting was changed from IMSC to senior management per NPR8553.1 in sections 1.3, 2.13.2.4, 2.13.3.3, 2.14.4 and 2.15. Removed annual third-party compliance audits in section 2.13.3.1, as this is not required per NPR 8553.1. Updated management review topics with deletion of 2.15.3.1 and clarification of 2.15.3.5.
Change	1	7/11/2018	On 7/11/18, at the request of the OPRD, minor changes were made to section 2.12.3.4 to update current compliance evaluations in accordance with NPR 8553.1.
Change	2	3/28/2019	On 3/28/19, at the request of the OPRD, administrative changes were made to change an Executive Order (EO) number and title in section P.4a and to change the EO number in sections 2.3.7.1, 2.3.7.2, 2.3.7.3 and 2.3.7.4 to reflect the number for the EO currently in place.
Change	3	08/1/2019	On 8/1/19, at the request of the OPRD, administrative changes were made to delete all references to MPR 1280.1, as that document has been cancelled. In paragraph P.4, MPR 1280.1 was deleted as a reference document and paragraph 1.2, which referenced MPR 1280.1 as defining Management Representative responsibilities, was deleted.
Change	4	8/18/2020	On 8/18/20, at the request of the OPRD, an editorial change was made to update a document title in paragraph P.4 (h), and the site address for posting a required document was changed from ExplorNet to SharePoint. For other documents that did not require posting, the ExplorNet addresses were deleted and wording was added to inform readers that the documents would be made available upon request, which aligns with HQs requirement. Section 2.3.7 contains text edits. Communication tools were updated in paragraph 2.8.1.5 and 2.8.1.13 and the Records List web location was changed in Appendix D.

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- Appendix A Definitions
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PREFACE

P.1 PURPOSE

This MPR document establishes general Environmental Management System (EMS) procedures and requirements at MSFC that describe the framework and process for continually evaluating and maintaining the MSFC EMS and is used in conjunction with NPD 8500.1, NPR 8553.1 and MPD 8500.1.

P.2 APPLICABILITY

a. This MPR 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.)

b. This MPR does not apply to Michoud Assembly Facility (MAF). MAF follows procedures established in organizational issuance AS60-OI-002, MAF Environmental Management System (EMS).

c. This MPR applies the following: 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.

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

e. This MPR does not apply to activities listed at [https://nasa.sharepoint.com/sites/msfceeoh/SitePages/Environmental-Management-System-\(EMS\).aspx](https://nasa.sharepoint.com/sites/msfceeoh/SitePages/Environmental-Management-System-(EMS).aspx)

f. This MPR applies to all activities, products, and services located at Redstone Arsenal that fall under the control of NASA.

Note: This defines the scope of the EMS as defined by NPR 8553.1 requirements.

P.3 AUTHORITY

- a. NPD 8500.1, NASA Environmental Management
- b. NPR 8553.1, NASA Environmental Management System
- c. MPD 8500.1, MSFC Environmental Management Policy

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P.4 APPLICABLE DOCUMENTS AND FORMS

- a. EO 13834, Efficient Federal Operations, May 17, 2018
- b. NPR 8715.2, NASA Emergency Management Program Procedural Requirements
- c. MCP 1040.2, MSFC Emergency Plan
- d. MPD 1380.1, Release of Information to News and Information Media
- e. MPR 1280.6, Management Systems Internal Audits
- f. MPR 1380.4, Handling of Freedom of Information Act Requests
- g. MPR 1410.1, Organizational Issuances
- h. MPR 1410.2, Marshall Directives System
- i. MPR 1440.2, MSFC Records Management Program
- j. MPR 3410.1, Training
- k. MPR 8500.1, MSFC Environmental Engineering and Occupational Health Program
- l. MPR 8715.1, Marshall Safety, Health and Environmental (SHE) Program
- m. MPR 8730.5, Metrology and Calibration
- n. MWI 1410.1, Processing Marshall Directives
- o. MWI 8715.12, Safety, Health, and Environmental-Finding Tracking System (SHEtrak)
- p. AS10-OI-005, MSFC Environmental Compliance Audits and Inspections
- q. AS10-OI-058, Resource Conservation and Recovery Act (RCRA) Contingency Plan
- r. AS10-OI-059, Spill Prevention, Control, and Countermeasure Plan
- s. AS10-OI-060, Stormwater Best Management Practices Plan
- t. AS60-OI-002, MAF Environmental Management System (EMS)

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P.5 MEASUREMENT/VERIFICATION

To measure effectiveness of this MPR, the Center undergoes an EMS audit twice annually.

P.6 CANCELLATION

MPR 8500.2G-3, MSFC Environmental Management System (EMS), dated November 30, 2017.

Original signed by

Todd A. May
Director

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CHAPTER 1. RESPONSIBILITIES

General EMS responsibilities are defined in NPR 8553.1. Responsibilities specific to MSFC are further defined in this MPR. A person assuming responsibility for an environmental function may delegate the performance of that function to others. The individual originally assigned shall retain responsibility and accountability for the proper performance of the delegated activity.

1.1 Center Director responsibilities are defined in NPR 8553.1.

1.2 EMS Representative responsibilities are defined in NPR 8553.1. The EMS Representative shall report on the performance of the EMS, including recommendations for improvement, to MSFC Senior Management at least annually, while also ensuring that EMS requirements are established, implemented, and maintained in accordance with NPR 8553.1.

1.3 An EMS Coordinator shall be appointed by the EMS Representative and manage the EMS day-to-day operations, chair the EMS Steering Committee, coordinate EMS audits, ensure that legal and other requirements have been identified, and assist the EMS Representative.

1.4 The Environmental Engineering & Occupational Health (EEOH) Office Manager shall serve as EMS Representative, manage and maintain the EMS, appoint an EMS Coordinator, provide personnel to support the EMS audits and conduct independent compliance inspections on a regular basis.

1.5 EEOH Program Managers shall be aware of and understand the various permits, guidelines, administrative orders, and regulations that are applicable to the programs for which they are responsible.

1.5.1 EEOH Program Managers shall also assist the EMS Coordinator in identifying legal and other requirements that apply to environmental aspects at MSFC.

1.6 The EMS Steering Committee shall provide specific operational knowledge and input to review aspects and impacts, training, communication, audit preparation and results, and other environmental issues as necessary, while also serving as EMS points-of-contact within their organizations.

1.7 Safety, Health, & Environmental (SHE) Committee shall serve as an advisory group to the MSFC Integrated Management System Council (IMSC) and act as a liaison between the EMS Representative and the MSFC Management Team. (Refer to MPR 8715.1.)

1.8 Directors/Managers of each MSFC Basic Organization shall implement the MSFC EMS within their respective organization by following requirements from MPR 8500.1, this MPR, and with guidance from EEOH.

1.9 MSFC Personnel shall comply with all NASA and MSFC environmental directives, as well as Federal, State, and local environmental laws and regulations.

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1.10 The EEOH Records Custodian shall maintain the EEOH Records Plan of official records in accordance with MPR 1440.2.

1.11 The Office of Strategic Analysis and Communications shall communicate the requirements of the EMS, as requested, to external interested parties as defined in MPD 1380.1 and MPR 1380.4, assisting EEOH in communicating the requirements of the EMS to MSFC onsite personnel as needed.

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CHAPTER 2. PROCEDURES

2.1 Environmental Policy. The MSFC Environmental Policy is established in NPD 8500.1 and further clarified in MPD 8500.1.

2.2 Environmental Aspects and Impacts.

2.2.1 NPR 8553.1 provides the procedure to identify environmental aspects and associated environmental impacts.

2.2.2 A list of MSFC environmental aspects and impacts shall be developed and maintained in accordance with the procedure established in NPR 8553.1 by EEOH.

2.2.2.1 The list of aspects and impacts shall be managed by EEOH as EMS records as discussed in Appendix D.

2.2.3 The aspects and impacts analysis shall be reviewed annually by the EMS Representative and EMS Coordinator to ensure that the analysis is current. Modifications to the aspects and impacts analysis are triggered by any new or modified operation or activity that may generate environmental impacts.

2.2.3.1 The annual review of aspects and impacts shall consist of data gathering among Center organizations to determine whether aspects and impacts have been added or changed.

2.2.3.2 The most current list of aspects and impacts shall be made available upon request.

2.3 Relevant Legal and Other Requirements. The Environmental Protection Agency (EPA) oversees Federal regulations and requirements. The State of Alabama has authority to regulate several environmental programs. In an area that the Alabama Department of Environmental Management (ADEM) has been given this authority, the State regulations and requirements supersede the Federal regulations. Other requirements include local regulations, Federal executive orders, and NASA guidance documents including policies, procedures, and memorandums.

2.3.1 The points-of-contact for environmental issues are managed by the EEOH Program Managers.

2.3.2 The legal and other regulatory changes are reported by each EEOH Program Manager, as necessary, to onsite personnel via e-mail updates to directives, and, when appropriate, training.

2.3.3 Resources used to identify and track changes to legal and other requirements shall include Federal Register Updates, EPA, ADEM, Regulatory Risk Analysis and Communication, FedCenter, and NASA Updates.

2.3.4 A table of “Legal and Other Requirements” shall be maintained by EEOH and made available upon request.

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Note: This table only includes requirements that are deemed applicable to environmental aspects at MSFC.

2.3.5 The “Legal and Other Requirements” table shall be reviewed annually and updated whenever new requirements become known to the EMS Coordinator and/or EEOH Program Managers or when there are changes to processes at MSFC that could alter its need to comply with requirements.

2.3.6 When a new requirement is identified and legal counsel is required (e.g., new initiative, consent order, or notice of violation), the responsible EEOH Program Manager shall elevate the issue to the EEOH Office Manager, Office of Center Operations Director, and Office of the Chief Counsel, as appropriate, to determine the course of action.

2.3.7 “Other Requirements” often include goals and requirements for areas or programs that are managed and/or tracked by EEOH, but functionally controlled by other organizations, such as transportation, energy and water conservation, sustainable acquisition, electronic stewardship, Green Buildings and Cultural Resources. Requirements and processes that are managed and tracked by EEOH, but functionally controlled by MSFC organizations other than EEOH include:

2.3.7.1 Goals and requirements for transportation under EO 13834 are functionally controlled by the Logistics Services Office (LSO) and goal progress is tracked by EEOH.

2.3.7.2 Goals and requirements for energy and water conservation, diversion of construction and demolition debris, and Green Buildings under EO 13834 are functionally controlled by the Facilities Management Office (FMO) and goal progress is tracked by EEOH.

2.3.7.3 Goals and requirements for sustainable acquisition under EO 13834 are functionally controlled by the Office of Procurement (OP) and goal progress is tracked by EEOH.

2.3.7.4 Goals and requirements for electronic stewardship under EO 13834 are functionally controlled by the Office of Chief Information Officer (OCIO) and goal progress is tracked by EEOH.

2.3.7.5 Cultural Resources requirements defined in NPR 8510.1 are functionally controlled by the FMO. Aspects and Impacts and Legal and Other Requirements regarding Cultural Resources are tracked by EEOH.

2.4 Environmental Objectives and Targets.

2.4.1 The objectives and targets shall be established by the EMS Representative and/or Coordinator to address all high priority environmental aspects identified by the aspects and impacts analysis per NPR 8553.1.

2.4.2 Lower priority aspects shall be reviewed annually by the EMS Steering for possible changes in status.

2.4.3 Targets shall be technically feasible, economically reasonable, and achievable.

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2.4.4 The established targets shall be specific, indicators of performance and, when practical, measurable.

2.4.5 If it is determined that objectives and targets cannot be developed due to being technically infeasible or economically unreasonable, the rationale behind the decision shall be documented and managed as a record as discussed in Appendix D.

2.4.6 Objectives and targets developed as part of the EMS shall become records and be managed as discussed in Appendix D.

2.4.7 Objectives and targets shall be reviewed and updated annually by the EMS Representative and EMS Coordinator.

2.5 Environmental Management Programs (EMPs).

2.5.1 EMPs shall be established by the EMS Coordinator and the affected MSFC organization (as necessary) in order to provide guidance for achieving the documented EMS objectives and targets within that organization.

2.5.2 The EMPs shall be reviewed and updated by the EMS Representative and EMS Coordinator, at a minimum, prior to each senior management review.

2.5.3 Per NPR 8553.1, an EMP is a detailed outline of the actions that need to be taken to achieve the environmental objectives and targets. Each EMP shall:

2.5.3.1 Designate responsibility for achieving the objectives and targets.

2.5.3.2 Identify required resources (technical and financial) to carry out the EMPs.

2.5.3.3 Establish timeframes in which objectives and targets will be achieved.

2.5.4 EMPs shall also be used to provide formal corrective action to address nonconformance root cause analysis, as appropriate.

2.5.5 EMPs developed as part of this process shall become records and be managed as discussed in Appendix D.

2.6 Roles and Responsibilities.

2.6.1 A general description of the roles and responsibilities for EMS implementation, operation, and maintenance is provided in Chapter 1.

2.6.2 Additional responsibilities are covered in NPR 8553.1.

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2.7 Training, Awareness, and Competence Requirements.

2.7.1 Appropriate training, as defined in NPR 8553.1 and MPR 8500.1, shall be given to all onsite employees who are included in the scope of the MSFC EMS.

2.7.2 All offsite employees and subcontractors (through subcontract requirements or other means) with onsite access shall be made aware of any environmental responsibilities associated with their activities onsite by the MSFC onsite prime contractors.

2.7.3 The importance of conformity with the MSFC environmental policy and procedures affecting on-site activities shall be made aware to all onsite employees.

2.7.4 Based on activities they are engaged in, all onsite employees shall be aware of the following areas, as appropriate:

2.7.4.1 Adverse environmental impacts associated with the high priority environmental aspects of their work and the environmental benefits of improved personal performance.

2.7.4.2 Requirements of the EMS applicable to their work and awareness of consequences associated with their deviation from these requirements.

2.7.5 MPR 3410.1 establishes the requirements to deliver and document training programs for personnel.

2.7.6 Environmental compliance training including training required under various laws and regulations (e.g., hazardous waste management, storm water control, or petroleum storage tank operations) is described in MPR 8500.1.

2.7.7 The training and competency to perform tasks of employees whose jobs have the potential to impact the environment shall be ensured by all onsite supervisors (civil servant and contractor).

2.7.8 Training records shall be managed as discussed in Appendix D.

2.8 Communication. Communication policy and instructions are defined in MPD 1380.1 and MPR 1380.4, respectively.

2.8.1 Internal Communication. The MSFC internal communication system shall be used to communicate environmental awareness, performance, issues, and concerns. Standard methods of communication may include, but are not limited to:

2.8.1.1 Environmental training.

2.8.1.2 Management meetings.

2.8.1.3 EMS Steering Committee.

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2.8.1.4 MSFC Green Team.

2.8.1.5 The internal MSFC EEOH SharePoint site

2.8.1.6 Staff meetings.

2.8.1.7 New-employee briefings.

2.8.1.8 Bulletin boards and posters and/or Employee Television (ETV).

2.8.1.9 *Marshall Star* publication.

2.8.1.10 Center-wide e-mail.

2.8.1.11 Desktop Television (TV) and Employee Television (ETV) billboards on TV screens throughout the Center.

2.8.1.12 Social Media: Highlighting environmental initiatives appropriate to communicate externally and to our workforce.

2.8.1.13

2.8.2 External Communication. Requests from external interested parties for copies of the environmental policy, environmental performance data (i.e., audit results), and other MSFC environmental records may be obtained in accordance with MPR 1380.4.

2.8.3 Communications with Regulatory Agencies. Written communications from environmental regulatory agencies (e.g., federal, state, or local) with respect to compliance issues shall be managed by EEOH Program Managers for their respective media, in coordination with the EEOH Office Manager. These communications may consist of letters, e-mails, environmental permits, audit reports, etc.

2.8.3.1 The regulatory inquiry shall be reviewed by the EEOH Office Manager to determine whether it needs to be forwarded to the MSFC Office of the Chief Counsel.

2.8.3.2 A written response shall be prepared by the EEOH Office Manager to address the compliance issue with input from the Office of the Chief Counsel and EEOH Program Managers, as appropriate.

2.8.3.3 Written responses to regulatory agencies shall be submitted by the EEOH Office Manager via a traceable method acknowledging agency receipt (e.g., return receipt mail, Federal Express, or United Parcel Service).

2.8.3.4 Written documentation shall become a record and be managed as discussed in Appendix D.

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2.9 EMS Documentation and Document Control.

2.9.1 By means of this MPR and related documents, MSFC has established and maintains a documented EMS for environmental practices and information specific to the Center. The EMS Representative shall ensure that MSFC documents do not conflict with NASA Headquarters' documents or State and Federal regulations and requirements.

2.9.2 This MPR and related documents provide mandatory requirements and references for environmental responsibilities and a mechanism to assist in maintaining employee awareness of MSFC environmental policy, procedures, and objectives.

2.9.3 This MPR shall be maintained by the EMS Representative (or designee). The controlled version is available online in the MSFC Integrated Document Library.

2.9.4 MSFC document control procedures shall be followed to ensure that all documents required to support and accomplish EMS functions or tasks are suitable, available, current, and controlled. (See MPR 1410.1 and MPR 1410.2.)

2.9.5 Any proposed revision to this MPR or referenced EMS documents shall be submitted to the EMS Representative.

2.9.6 Document changes shall be submitted by the EMS Representative (or designee) in accordance with MPR 1410.2 or organizational documentation control procedures.

2.10 Operational Controls.

2.10.1 Procedures shall be established and maintained for general processes and activities affecting the environment.

2.10.2 When necessary, specific procedures shall be established and maintained for the processes and activities associated with significant environmental aspects.

2.10.3 The procedure may be an Organizational Issuance (OI) prepared in accordance with MPR 1410.1, or an MPR or MWI prepared in accordance with MPR 1410.2 and MWI 1410.1.

2.10.4 In the absence of procedures for situations or activities that could deviate from the environmental policy, objectives, and targets (i.e., harm the environment), any employee shall have the authority to stop that situation or activity from continuing and notify EEOH immediately at 544-4246.

2.11 Emergency Preparedness and Response.

2.11.1 The following documents were established to address emergency preparedness and response and are considered part of the EMS:

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2.11.1.1 NPR 8715.2 provides requirements for developing emergency preparedness procedures and for effectively working with regional organizations of the Department of Homeland Security's Federal Emergency Management Agency for response to national emergencies.

2.11.1.2 MCP 1040.2 addresses emergency, natural hazard, and disaster planning, response, mitigation, and recovery specific to MSFC.

2.11.1.3 AS10-OI-058, and AS10-OI-059 address emergency preparedness and response requirements in various environmental regulations. AS10-OI-058 addresses the Resource Conservation and Recovery Act Contingency Plan (for responding to hazardous waste releases), AS10-OI-059 addresses the Spill Prevention, Control, and Countermeasure Plan (for responding to oil releases) and AS10-OI-060 addresses potential releases to surface waters.

2.11.2 Employees shall be trained (based on activities they are engaged in) on emergency preparedness and response requirements associated with the environmental aspects and impacts of their jobs.

2.12 Monitoring and Measurement.

2.12.1 Suitable methods for monitoring and, where applicable, measurement of EMS performance, conformance with operational controls, and the achievement of objectives and targets shall be applied by MSFC.

2.12.2 These methods shall demonstrate the ability of the processes to achieve planned results.

2.12.3 Monitoring and measurement shall be addressed through the following methods:

2.12.3.1 Development of EMPs as necessary to identify actions to achieve the environmental objectives and targets.

2.12.3.2 Identification of points of monitoring and measurement in these EMPs (or other documents) for assessing and tracking progress towards these objectives and targets.

2.12.3.3 Operational controls or operating procedures addressing equipment calibration requirements, as appropriate, in accordance with MPR 8730.5.

2.12.3.4 Measurement of compliance with environmental laws and regulations is accomplished through routine regulatory environmental compliance evaluations and audits. The NASA Headquarters' Environmental Management Division conducts Environmental Functional Reviews once every 3 years. EEOH measures compliance with environmental laws and regulations through routine regulatory environmental compliance inspections and evaluations. Environmental compliance findings are entered into the Safety, Health, and Environmental-Finding Tracking System (SHEtrak) database in accordance with MWI 8715.12 and tracked to closure.

2.13 EMS Review. Per NPR 8553.1, a complete EMS review consists of an EMS Conformance Audit and an EMS Compliance Audit.

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2.13.1 All elements of MSFC’s EMS shall be reviewed over a 3-year period for conformance to NPR 8553.1 (i.e., it is not necessary to evaluate every element of the EMS every year).

2.13.2 EMS Conformance Audits shall ensure that MSFC is following the procedures and performing the activities established in the EMS.

2.13.2.1 MPR 1280.6 provides instructions for conducting internal EMS Conformance Audits. The EMS Conformance Audit assesses whether MSFC organizations are following the established environmental procedures necessary to maintain an effective EMS.

2.13.2.2 At the conclusion of the EMS Conformance Audit, findings shall be documented utilizing the Audit Tracking and Information System and supported by objective evidence in accordance with MPR 1280.6.

2.13.2.3 Audit reports shall become records and be managed as discussed in Appendix D.

2.13.2.4 Key findings from the EMS Conformance Audit shall be presented to MSFC Senior Management at least annually by the EMS Representative. (See 2.15.)

2.13.3 EMS Compliance Audits are designed to measure environmental compliance with Federal, State, and local regulations, and other requirements as listed in the “Legal and Other Requirements” table defined previously.

2.13.3.1 Compliance Audits shall be conducted through the following means: Federal and State regulatory agency inspections, regular inspections conducted via an MSFC environmental support contractor, periodic inspections conducted by EEOH personnel, and Environmental Functional Reviews conducted by NASA Headquarters every 3 years. These findings are reported and tracked through the SHEtrak database.

2.13.3.2 AS10-OI-005 specifies EEOH roles and responsibilities in support of compliance audits and inspections.

2.13.3.3 Key compliance audit findings shall be presented to the MSFC Senior Management at least annually by the EMS Representative.

2.14 Nonconformance and Corrective and Preventive Action.

2.14.1 Corrective and preventive action shall be taken in response to audits and inspections or as a result of management reviews, daily operations, and employee suggestions.

2.14.1.1 As appropriate, procedures or programs shall be modified or revised based on the results of a nonconformance root cause analysis.

2.14.1.2 Any changes to the documented procedures as a result of corrective or preventive actions shall be recorded and implemented through the Marshall Directives System (MPR 1410.2) process.

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2.14.2 For EMS Conformance Audits:

2.14.2.1 Nonconformance findings and the associated corrective and preventive actions shall be tracked in the Audit Tracking and Information System in accordance with MPR 1280.6.

2.14.3 For Compliance Audits and Inspections:

2.14.3.1 EMS Compliance Audit findings and the associated corrective and preventive actions shall be documented and tracked in the SHEtrak database.

2.14.3.2 EMPs that provide formal corrective action to address nonconformance root cause analysis shall be developed by EEOH as appropriate.

2.14.4 Corrective and preventive actions pertaining to management reviews, and daily operations are tracked as SHEtrak findings, IMSC actions, or EMPs.

2.14.5 Other means of corrective and preventive action needs or notification are received through the following means:

- a. Safety Concerns Reporting System (SCRS).
- b. Phone calls directly to the EEOH Office.
- c. Centerwide Action Item Tracking System (CAITS) actions.

2.15 Management Review.

2.15.1 The EMS Representative or designee shall provide an annual review of the EMS MSFC Senior Management. This allows senior management the opportunity to evaluate the ongoing suitability, adequacy, and effectiveness of the EMS.

2.15.2 Management review meeting results shall be recorded as official records in accordance with NPR 8553.1.

2.15.3 Topics for management review meetings consist of, but are not limited to:

2.15.3.1 Results of internal audits and evaluations of compliance with legal requirements and with other requirements to which the organization subscribes.

2.15.3.2 Communication(s) from external interested parties including complaints.

2.15.3.3 Environmental performance of the organization.

2.15.3.4 Status of EMS objectives and targets.

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2.15.3.5 Status of corrective and preventive actions.

2.15.3.6 Follow-up actions from previous management reviews.

2.15.3.7 Changing circumstances, including developments in legal and other requirements related to environmental aspects.

2.15.3.8 Recommendations for improvement.

2.15.4 The outputs from management reviews shall include any decisions and actions related to possible changes to environmental policy, objectives, targets, and other elements of the EMS, consistent with the commitment to continual improvement. MGM 1280.1 provides general guidance and a reference to the procedures establishing continual improvement activities at MSFC.

2.16 EMS Metrics.

2.16.1 Per NPR 8553.1, NASA Headquarters' Environmental Management Division provides metrics for evaluating the status and viability of NASA Center EMS. EMS metrics shall be reported to NASA Headquarters as requested as follows:

2.16.1.1 The EMS metrics shall be reported by the EMS Representative.

2.16.1.2 Metrics for sustainable buildings, energy conservation, and water conservation shall be reported by the FMO.

2.16.1.3 Metrics for transportation shall be reported by the LSO.

2.16.2 MSFC shall implement corrective actions addressing nonconformances identified as a result of evaluating and reporting of metrics to NASA Headquarters.

2.16.3 Specific, measurable metrics for high priority aspects shall be defined within the EMPs.

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Appendix A

DEFINITIONS

Audit Finding. Any nonconformance or observation identified through internal or external audits of the EMS. Findings are the result of the evaluation of collected audit evidence against agreed audit criteria.

Corrective Action. Action taken to eliminate the causes of an existing nonconformance, observed concern, defect, or other undesirable condition in order to prevent recurrence.

Environment. Surroundings in which an organization operates including air, water, land, natural resources, flora, fauna, humans, and their interrelation. Surroundings in this context extend from within an organization to the global system.

Environmental Aspects. Elements of NASA's activities, products, or services that can interact with the environment. Aspects constitute the elements of NASA's activities, products, or services over which NASA has control and which it can manage. Aspects are ranked as high, medium, low, or very low priority in accordance with the Risk Ranking Matrix provided in NPR 8553.1.

Environmental Engineering and Occupational Health (EEOH) Program Manager. Personnel within the EEOH that are responsible for specific environmental programs (e.g., air, water, or hazardous waste).

Environmental Functional Review. A functional assessment led by Headquarters' Environmental Management Division of environmental management, compliance, and related activities at a NASA Center.

Environmental Impact. Any change to the environment, whether adverse or beneficial, wholly or partially resulting from NASA's activities (past, present, or future), products, or services. Environmental impacts are changed by the management of environmental aspects. An environmental impact results in or affects: safety and health, a natural or cultural resource, a cost to NASA, the NASA mission; reputation or stakeholder relationship, or an environmental legal/regulatory implication.

Environmental Management Program (EMP). A detailed implementation program (action plan) to achieve identified objectives and targets.

Environmental Management System (EMS). An EMS is a system that incorporates people, procedures, and work practices in a formal structure to ensure that the important environmental impacts of the organization are identified and addressed; promotes continual improvement by regularly evaluating environmental performance, involves all disciplines throughout the Center as appropriate, and actively involves senior management.

EMS Compliance Audit. A methodical examination of procedures and practices that lead to

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verification of compliance with legal requirements, internal policies, or accepted practices. Procedures are defined in AS10-OI-005.

EMS Coordinator. An individual within the EEOH Office, appointed by the EMS Representative, who manages the EMS day-to-day operations.

EMS Conformance Audit. A systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organization is conforming to its EMS and to communicate the results of this process to management.

EMS Representative. Manager of the EEOH Office who reports to MSFC Senior Management and NASA Headquarters' Environmental Office on EMS performance and results of functional assessments, audits, and management reviews. This individual may delegate responsibilities as necessary to the EMS Coordinator.

EMS Review. A complete environmental program review comprising both the EMS Conformance Audit and EMS Compliance Audit.

EMS Steering Committee. A cross-functional group of Center personnel serving as an advisory or oversight committee to the EMS Coordinator and also serving as the EMS point-of-contact within their organization.

Environmental Objective. An overall environmental goal arising from the environmental policy that MSFC sets for itself to achieve and that is quantified where practicable.

Environmental Target. A detailed performance requirement, quantified where practicable, established to meet the environmental objectives.

Nonconformance. A failure to meet a NASA or MSFC EMS-specified requirement.

Preventive Action. Action taken to eliminate the causes of a potential nonconformance, defect, or other undesirable condition in order to prevent occurrence.

Safety, Health, and Environmental-Finding Tracking System (SHEtrak). MSFC database for entering and tracking findings from SHE inspections.

Sustainable Buildings. Sustainable building design, also known as “green building design,” is a program managed within the FMO.

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Appendix B

ACRONYMS

ADEM	Alabama Department of Environmental Management
AS10	Organization code for MSFC Environmental Engineering and Occupational Health Office
AS60	Organization code for Michoud Assembly Facility
CAITS	Centerwide Action Item Tracking System
EEOH	Environmental Engineering and Occupational Health Office
EMP	Environmental Management Plan
EMS	Environmental Management System
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ETV	Employee Television
FMO	Facilities Management Office
IMSC	Integrated Management Systems Council
LSO	Logistics Services Office
MAF	Michoud Assembly Facility
MGM	Marshall Guidance Manual
MPD	Marshall Policy Directive
MPR	Marshall Procedural Requirements
MSFC	Marshall Space Flight Center
MWI	Marshall Work Instruction

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NASA	National Aeronautics and Space Administration
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
OCIO	Office of Chief Information Officer
OP	Office of Procurement
OI	Organizational Issuance
RCRA	Resource Conservation and Recovery Act
SCRS	Safety Concerns Reporting System
SHE	Safety, Health, & Environmental
SHEtrak	Safety, Health, and Environmental-Finding Tracking System
TV	Television

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Appendix C

(Reserved for Verification Matrix)

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Appendix D

RECORDS

The following records are maintained according to the “List of AS10 Environmental Records” located at:

<https://nasa.sharepoint.com/sites/msfceeoh/SitePages/Records-Management.aspx>

D.1 Environmental aspects and impacts.

D.2 Environmental Management Programs (objectives and targets).

D.3 EMS audit reports.

D.4 Regulatory compliance audit records.

D.5 Environmental compliance inspection findings.

D.6 Management review records.

D.7 Personnel training records for civil service employees.

D.8 Personnel training records for contractor employees.

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Appendix E

REFERENCES

E.1 5 U.S.C. § 552, The Freedom of Information Act

E.2 42 U.S.C. 11001 et. seq. (1986), Emergency Planning and Community Right-to-Know Act (EPCRA)

E.3 MGM 1280.1, Guidance for Continual Improvement