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Chapter 10.4 Facility Safety Management Process Documentation (FSMPD) Requirements for Critical, Complex, or Hazardous Facilities

10.4.1 Applicability of this chapter

10.4.1.1 You are required to follow this chapter if you are:

- a. A facility operations manager of a facility described in paragraph 10.4.2 or on the list of facilities requiring [FSMPD](https://smasp.jsc.nasa.gov/ns/ns1/FBD/Home.aspx) at the following URL:
<https://smasp.jsc.nasa.gov/ns/ns1/FBD/Home.aspx>.
- b. An appointed safety coordinator in facilities described in paragraph 10.4.2 or on the list at the URL in subparagraph a.
- c. A director at JSC responsible for facilities described in paragraph 10.4.2 or on the list at the URL in subparagraph a.

10.4.2 What facilities require FSMPD

10.4.2.1 “Facility,” as used in this chapter, may be a building, a work area in a building such as a laboratory, or an outside work area. A facility shall have FSMPD if it:

- a. Is critical to JSC’s overall mission, such as:
 - (1) Unique, irreplaceable facilities supporting human space flight activities.
 - (2) Facilities directly supporting those unique, irreplaceable facilities providing water, electricity, heating and cooling, and computer services.
- b. Contains historically significant national treasures, including irreplaceable film, video, and scientific specimens.
- c. Is hazardous, such as:
 - (1) Facilities, by their standard operation or mission, subjecting personnel to risks or hazards not normally seen in the standard workplace environment, such as high voltage or current electricity, plasmas, vacuum environments, hypobaric or hyperbaric test chambers, cryogenics, and human suited operations.
 - (2) Facilities housing or using explosive, flammable, toxic, caustic, radioactive, or oxidizing materials.
- d. Has very complex operating systems, such as those:
 - (1) Requiring multiple organizations to conduct its operations.
 - (2) Requiring extensive employee training to operate.
 - (3) Having internally and externally integrated systems using specialty and prototype equipment.
 - (4) Containing specifically designed and high value equipment.
 - (5) Housing special communications and telemetry systems interfacing with other NASA centers, international organizations, and the Department of Defense (DOD).

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- e. Is listed in the [table](https://smasp.jsc.nasa.gov/ns/ns1/FBD/Home.aspx) at the following URL: <https://smasp.jsc.nasa.gov/ns/ns1/FBD/Home.aspx>. Organizational directors may propose addition or deletion of facilities subject to these requirements to the Safety and Test Operations Division. The list of applicable facilities is subject to change considering the scope of this chapter and risk to life, safety, mission, property, or the environment.

NOTE: As required in Chapters 2.3 and 10.1, as well as NPR 8820.2, analysis and requirements definition must begin in the early design stages of the facility development or modification. This includes hazard analyses and hazard controls, testing and checkout requirements, and necessary documentation described in paragraph 10.4.3.

10.4.3 FSMPD requirements

10.4.3.1 For facilities meeting the criteria in paragraph 10.4.2., facility management shall develop and validate the FSMPD listed in checklist ([NS-PA-CH07](https://smasp.jsc.nasa.gov/ns/ns1/JSC%20Checklists/NS-PA-CH07-FacBaselineDocChecklist.docx)) at URL: <https://smasp.jsc.nasa.gov/ns/ns1/JSC%20Checklists/NS-PA-CH07-FacBaselineDocChecklist.docx> for the facility, before beginning operations and maintain documentation through the life cycle of the facility. Below is a list of specific items for each FSMPD element:

a. **Configuration control documentation:**

- (1) Have a documented system to identify and control the facility's configuration that meets JPD 8820.3, "Facility Configuration Management Program."
- (2) Document the configuration control system in the general operating documentation, described in sub-paragraph b below.

b. **General operating documentation:**

- (1) Containing basic policies.
- (2) Describing facility organization and its functions and responsibilities.
- (3) Describing how to collect and control facility safety management process documentation.

NOTE: This documentation may be included in test plans, operating plans, readiness reviews or inspections, work instructions, management system documents, or customer agreements, provided all elements are addressed and revised as appropriate as conditions change.

- c. **Detailed procedures** describing how employees operate machinery or systems, conduct tests, and control resources and schedules. Include limitations, controls, and requirements associated with sub-paragraph b, above, and sub-paragraph d, below, as necessary to assure hazards and key operating conditions are fulfilled. Procedures developed in house or manufacturers' procedures are acceptable.
- d. **Safety documentation** assessing risks associated with the facility, identifying and tracking hazards, and verifying hazard resolution.
- e. **Training documentation** defining the minimum training and certification needed to qualify personnel to operate equipment or systems, or to be a member of a test team.

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f. **Maintenance documentation** describing how to maintain the facility, facility systems, and facility equipment in a safe working order, and show maintenance history. Manufacturers' maintenance manuals are acceptable.

g. **Other documentation such as:**

(1) Records from a readiness review that approved the facility, such as an operational readiness inspection or a user readiness review, if such a review was done.

(2) Records documenting operational decisions or critical operations in the facility.

10.4.3.2 Tailoring the list of required documentation is allowed with the approval of a facility readiness review (per Chapter 10.3) or with the approval of SMA. Facility management shall keep documentation of any approvals for tailoring as part of the FSMPD.

10.4.4 Assessing and Maintaining FSMPD

a. Assess FSMPD using the ([NS-PA-CH07](#)) at URL:

<https://smasp.jsc.nasa.gov/ns/ns1/Checklists/Home.aspx> and assess each item as follows:

(1) Conforms – The necessary FSMPD is available and up to date.

(2) Partial conformance – A discrepancy where the intent has been met, such as a document is available, but it is out of date.

(3) Non-conformance – A discrepancy resulting in a hazard or when no documentation is available. A hazard exists because of the lack of risk control. Non-conformances require STAR (System for Tracking Audits/Assessments, and Reviews) entries with details for tracking.

(4) Not Applicable. Items determined to be non-applicable per paragraph 10.4.3.2.

NOTE: Nonconformances are subject to trend analysis, to include systemic issues as required in Chapter 2.7, "Trend Analysis."

b. To maintain FSMPD, follow NPR 1441.1, "NASA Records Management Program Requirements" (current version), for keeping, archiving, or destroying records.

10.4.5 Responsibilities for FSMPD

a. As an **organizational director**, you are responsible for:

(1) Deciding which facilities need to follow the requirements in this chapter and notifying the Safety and Test Operations Division of any additions or deletions to the list.

(2) Making sure each facility or laboratory manager has the required FSMPD.

(3) Reviewing the status of FSMPD during readiness reviews or inspections to make sure it meets this chapter. If your facility is used continuously or frequently, you may define prescribed intervals for review based on maintenance requirements or change milestones.

(4) Bringing any discrepancies found during your review to the attention of the responsible facility or laboratory manager for corrective action.

(5) Making FSMPD available to the Safety and Test Operations Division during its assessments.

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- (6) Assessing laboratories and facilities for applicability of this chapter, and to direct the appropriate facility or laboratory manager to develop or upgrade FSMPD to conform to these requirements.
- (7) Periodically self-assessing FSMPD using the checklist (NS-PA-CH07) as described in paragraph 10.4.4. Tailor the checklist to the documentation required by the readiness review. Send completed checklists to the Safety and Test Operations Division for an evaluation of compliance. You may use data from other assessments, inspections and audits to fulfill FSMPD requirements.

b. The *Safety and Test Operations Division* is responsible for:

- (1) Assessing the risk associated with facilities identified as hazardous, critical, or complex.
- (2) Developing a schedule of facilities to be assessed annually, considering operational objectives, scheduling impacts, age, and changes in mission scope. Compliance with this chapter and risks associated with these facilities may also be assessed during the course of readiness reviews, facility inspections, internal or external audits.
- (3) Assessing the adequacy of Directorate Reviews through evaluation of supporting information.

NOTE: The Safety and Mission Assurance Office fulfills these responsibilities at WSTF.