



Procedures and Guidelines (PG)

DIRECTIVE NO. 800-PG-7120.4.1

EFFECTIVE DATE: March 26, 2018

EXPIRATION DATE: March 26, 2023

APPROVED BY Signature: Original Signed by

NAME: William A. Wrobel

TITLE: Director of Suborbital & Special Orbital Projects

COMPLIANCE IS MANDATORY

Responsible Office: 800/Suborbital and Special Orbital Projects Directorate

Title: SSOPD Risk Management Process (Plan)

PREFACE

P.1 PURPOSE

This PG defines the Code 800 Suborbital and Special Orbital Projects Directorate's (SSOPD) risk management approach. This PG defines roles and responsibilities, requirements, procedures, guidelines, and a common framework in identifying, analyzing, communicating, and managing concerns and risks.

P.2 APPLICABILITY

This PG is applicable to programs/projects (or portions thereof) managed by the SSOPD at the GSFC/Wallops Flight Facility (WFF). It also applies to institutional activities under the responsibility of SSOPD.

- a. In this document citations are assumed to be the latest version unless otherwise noted.
- b. In this document, 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.

P.3 AUTHORITY

NPR 8000.4, Agency Risk Management Procedural Requirements

GPR 7120.4, Risk Management

P.4 APPLICABLE DOCUMENTS AND FORMS

- a. NPR 7120.8, NASA Research and Technology Program and Project Management Requirements
- b. Suborbital Research Program Plan
- c. Research and Technology Program Commitment Agreement Suborbital Research Program
- d. Memorandum of Agreement Between NASA GSFC's Director of Safety and Mission Assurance and the Director of WFF (dated 3/2/2015)

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P.5 CANCELLATION

N/A

P.6 SAFETY

N/A

P.7 TRAINING

Supervisors shall ensure that their employees understand and comply with the requirements herein. All personnel who are responsible for risk management activities shall follow the training requirements established by GPR 7120.4, *Risk Management*.

P.8 RECORDS

Record Title	Record Custodian	Retention
SSOPD Monthly Risk Summary Report	SSOPD Risk Manager	*NRRS 8/107 Temporary. Destroy/Delete between 0 and 30 years after Program/Project Termination.

**NRRS 1441.1 – NASA Records Retention Schedule*

P.9 MEASUREMENT/VERIFICATION

Metrics which include number of open and closed risks, number of accepted (residual) risks, when the risk was open, and estimated completion date are kept and tracked.

Verification of effectiveness of this process is measured by metrics driven from the PCA.

1.0 SSOPD RISK MANAGEMENT PHILOSOPHY

1.1 The SSOPD manages and directs the Suborbital Research Program (SRP) consisting of the Science Mission Directorate’s (SMD) Sounding Rocket Program, Balloon Program, a portion of the Airborne Sciences Program, and selected CubeSat missions. The SSOPD also manages a set of other ad hoc suborbital and small orbital projects for NASA and reimbursable customer organizations. The SSOPD manages the Wallops Launch Range (partially sponsored by SMD’s Research Range Services Program) and the Wallops Research Airport, as well as flight operations conducted from them. Additionally, the SSOPD is responsible for the management of new business, safety, and education on the WFF campus. SSOPD activities occur both from WFF, as well as, from other worldwide operational sites.

1.2 Most SSOPD activities are governed by NPR 7120.8, *NASA Research and Technology Program and Project Management Requirements*, and more specifically, for activities under the auspices of the *Suborbital Research Program (SRP)*, the risk posture is defined through the *Research and Technology Program Commitment Document (PCA)*, *Suborbital Research Program*. SSOPD programmatic

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activities are implemented at a level of rigor commensurate with the cost and complexity of the mission. In accordance with the PCA the SRP operates under a risk posture that tolerates an 85% long-term mission success rate, but has historically achieved greater than a 90% mission success for the Sounding Rocket Program and the Balloon Program.

1.3 Many SSOPD's missions include payloads provided by Principle Investigators (PI), executed through grants, where the SSOPD has limited insight and authority into designs, fabrication, and testing. The SSOPD may identify risks associated with PI supplied systems, but will not generally include them as Directorate-level risks due to the inability to mitigate them and the scope of SSOPD's responsibilities. Additionally, in many cases, the SSOPD supports many non-NASA reimbursable customers who engage the Directorate to provide flight systems or mission operations support. Under these circumstances, the SSOPD typically is responsible for satisfying technical requirements and for public safety, but not overall mission success. Where the SSOPD does not have responsibility for mission success, the SSOPD risks will generally be limited to those within the scope of its services.

1.4 The SSOPD clearly distinguishes between mission/institutional risks where management decisions can be made based on business priorities (e.g., financial and schedule trade-offs), and safety risks. Safety risks are based on the concerns in the protection of participating personnel and the general public, and defined through adherence to defined criteria and requirements in other NPRs and GPR.

2.0 RESPONSIBILITIES

2.1 In accordance with the *Memorandum of Agreement Between NASA GSFC's Director of Safety and Mission Assurance and the Director of WFF*, the Safety and Mission Assurance (SMA) Director delegated the SMA Technical Authority to the WFF Director (also Director of SSOPD) for activities managed by or occurring at WFF.

2.2 The Sounding Rockets Program Office (810), the Balloon Program Office (820), and the Aircraft Office (830) are separately responsible for their risk management process compliance that applies to their portions of the approved Suborbital Research Program's PCA, SRP Program Plan, and annual project management portfolio plans.

2.3 The SSOPD's project management organizations are individually responsible for tracking portfolio and individual mission risks and reporting them through the SSOPD's portion of the GSFC Monthly Status Review (MSR), in accordance with their respective risk management plans.

2.4 The SSOPD shall designate a Directorate Risk Manager who is responsible for managing the collection, tracking, and reporting of the Directorate's risks. The SSOPD Deputy Director shall serve as the SSOPD's Risk Manager.

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2.5 The SSOPD's Risk Management Board shall serve to review/approve the status of Directorate-level risks, discuss the disposition of risks, and improve the directorate's risk management process. The Risk Board shall consist of the following positions:

- a. SSOPD Director
- b. SSOPD Deputy Director
- c. SSOPD Deputy Director for Business
- d. SSOPD Technical Manager

3.0 SSOPD'S RISK INFORMED DECISION MAKING AND CONTINUOUS RISK MANAGEMENT PROCESS

3.1 The Directorate's Risk Manager shall be responsible for compiling Directorate-level risks via a variety of formal and informal processes, including:

- a. SSOPD's Office-level MSR presentations
- b. SSOPD's Financial MSR
- c. SSOPD's Weekly Office reports
- d. Miscellaneous other meetings, reports, and discussions

3.2 SSOPD's risks may include items that are:

- a. Technical
- b. Programmatic
- c. Financial
- d. Schedule
- e. Strategic
- f. Institutional
- g. Safety

3.3 The Directorate's Pre-MSR will serve as a primary forum for discussion and debate about risks between the SSOPD's senior management and the SSOPD's Offices concerning risks in their areas of responsibilities. Risks that require higher level assistance are elevated from the Office level to the Directorate level.

3.4 The SSOPD's Risk Manager will create a draft, monthly SSOPD Risk Report with risk definition, ranking, status, management approach, and ultimate disposition. The Risk Report will follow the risk reporting formats defined in GPR 7120.4, *Risk Management*. Risks will be categorized as either programmatic or institutional risks.

3.5 The SSOPD's Risk Management Board will review the draft SSOPD Risk Report and provide concurrence or suggest changes. The SSOPD's Risk Manager will seek consensus on all individual risks and finalize the draft report accordingly.

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3.6 The SSOPD will utilize the Risk Report as the basis for required risk communications to the Center. Risks that require higher level assistance are elevated from the Directorate level to the Center level.

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Appendix A – Acronyms

GPR	Goddard Procedural Requirements
MSR	Monthly Status Review
NPR	NASA Procedural Requirements
PCA	Program Commitment Agreement
PI	Principal Investigator
SMA	Safety & Mission Assurance
SMD	Science Mission Directorate
SRP	Suborbital Research Program
SSOPD	Suborbital and Special Orbital Projects Directorate
WFF	Wallops Flight Facility

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CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	March 26, 2018	Initial Release

For Best Practices refer to:

<https://gs279gdmsias.gsfc.nasa.gov/GDMSv2/downloadFile.htm?docId=28819>

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