



Procedures and Guidelines

DIRECTIVE NO. 400-PG-8621.0.1
EFFECTIVE DATE: March 6, 2003
EXPIRATION DATE: March 6, 2008

APPROVED BY Signature: Original signed by
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Responsible Office: Code 400 Flight Programs and Projects Directorate

Title: Anomaly Reporting System for Flight Programs and Projects

PREFACE

P.1 PURPOSE

The objective of the Code 400 Anomaly Reporting System is to provide timely and consistent notification to Center and Headquarters management about anomalies that affect or involve GSFC Code 400 missions, and to provide management with insight into the problem and the planned corrective actions. This document provides guidelines for generating and distributing Anomaly Reports.

P.2 APPLICABILITY

This document applies to Space Science, Earth Science, and Human Exploration and Development of Space (HEDS) Enterprise flight projects.

P.3 AUTHORITY

NPG 8621.1 NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Record Keeping

P.4 REFERENCES

NPG 8621.1 NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Record Keeping
NASA Form 1627, NASA Mishap Report

P.5 CANCELLATION

None

P.6 SAFETY

None

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P.7 TRAINING

The following course of instruction is available on the NASA SOLAR website:

Mishap Reporting Familiarization

P.8 RECORDS

None

P.9 METRICS

None

P.10 DEFINITIONS

- a. Development Phase Anomaly - Any isolated accident, failure, or event involving flight hardware that is likely to cause a slip in the launch readiness date or significant cost growth.

Examples include:

- The roof leaks and flight hardware is damaged
- Significant structural damage to an instrument or spacecraft occurs during vibration testing
- The instrument or spacecraft is dropped in processing or shipment
- Test equipment is incorrectly configured (i.e. mis-mates, incorrect polarity, etc.) and significant damage to hardware occurs.

The following would not be reported as an Anomaly:

- Testing reveals that certain detectors are not meeting specifications
- It is discovered that the flight hardware includes suspect components
- An accumulation of technical problems results in the cost cap being exceeded.

- b. Operations Phase Anomaly - Any isolated accident, failure, or event that is likely to compromise the ability of an instrument or spacecraft to successfully complete its mission.

Examples include:

- Significant loss of science or data flow (ie, communications system failure, instrument failure, entry into safehold, etc).
- Loss of redundancy on-board the spacecraft where an additional failure will result in the loss of the mission.
- Any event that jeopardizes the ability to complete the target mission life (ie, unexpected loss of expendables such as cryogenes, degraded solar array performance, etc).

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- c. Mishap – Any unplanned occurrence or event that may be classified as a Type A, B, or C Mishap, Incident, or Mission Failure. A mishap may involve NASA personnel, equipment or facilities or NASA contract personnel and/or equipment in support of operations at NASA. See NPG 8621.1, Mishap Reporting, Investigating, and Record Keeping.

PROCEDURES

The individual responsible for the issuance of the Anomaly Reports is the Project Manager during the development phase of the mission and the Mission Director during the operations phase of the mission.

It is recognized that at the time an anomaly occurs it is often difficult to predict the severity of the resultant impact. The primary purpose of the initial issuance of an Anomaly Report is to give management a heads-up that a potentially serious event has occurred. A balance has to be sought between timely notification of management of such events and issuing “false alarms”. In the end, the issuance of an Anomaly Report is often a judgment call on the part of the Project Manager or Mission Director. As further guidance, some specific examples are provided in P.10, Definitions Section.

1. All events are to be reported by email using the standard Anomaly Report format (see Attachment 1) as soon as practical, but no longer than 24 hours after the event occurs. The nominal email distribution list is provided in Table 1. Individual Projects may supplement these listings with additional names unique to their own Project.
2. For missions in the Operations Phase, follow-up email status messages should be sent whenever status changes significantly and continue until the event has been resolved (to the extent possible).
3. Potentially catastrophic pre-launch anomalies or on-orbit anomalies which are mission-threatening to high-value assets such as HST or Terra, shall be reported immediately using the appropriate phone trees documented in Tables 2 and 3 for Development Phase and Operations Phase anomalies respectively.

Note: The intent of this Procedures and Guidelines is to provide timely notification to Center and Headquarters management about anomalies that affect or involve GSFC Code 400 missions. Project Managers and Mission Directors are reminded of the requirement for Mishap Reporting as documented in NPG 8621.1. Specifically, for events that can be considered mishaps, the Project Manager or Mission Director shall also initiate a NASA Form 1627. Mishaps are reported via the GSFC NCR CAS system at <http://ncr.gsfc.nasa.gov>. An electronic copy of the form can be attached to the e-mail notification of the event. Initial notification only requires completion of the first 14 blocks on the NASA Form 1627.

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Attachment 1 Anomaly Report *

TO:

FROM:

DATE:

PROGRAM/PROJECT:

DATE OF ANOMALY:

LOCATION OF ANOMALY:

DESCRIPTION OF EVENT:

IMPACT ON PROGRAM/PROJECT AND SCHEDULE:

CORRECTIVE ACTION:

sample

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Table 1. E-Mail Distribution Lists

	Space Science		Earth Science		HEDS	
	Dev Phase	Ops Phase	Dev Phase	Ops Phase	Dev Phase	Ops Phase
GSFC	A. Diaz	A. Diaz	A. Diaz	A. Diaz	A. Diaz	A. Diaz
	W. Townsend	W. Townsend	W. Townsend	W. Townsend	W. Townsend	W. Townsend
	D. Perkins	D. Perkins	D. Perkins	D. Perkins	D. Perkins	D. Perkins
	J. Greaves	J. Greaves	J. Greaves	J. Greaves	J. Greaves	J. Greaves
	W. Denoon	W. Denoon	W. Denoon	W. Denoon	W. Denoon	W. Denoon
	R. Obenschain	R. Obenschain	R. Obenschain	R. Obenschain	R. Obenschain	R. Obenschain
	J. Ormes	J. Ormes	F. Einaudi	F. Einaudi	P. Liebrecht	P. Liebrecht
	J. Dalton	P. Liebrecht	P. Sabelhaus	P. Sabelhaus		K Tasaki
	A. Dantzler	K Tasaki		P. Liebrecht (*)		R. Jenkins, Jr.
		P.Burch		K Tasaki (*)		
		R. Mahmot		D. Perkins (*)		
	J. Dalton		P. Ondrus (*)			
	A. Dantzler					
HQ	Pgm Exec	Pgm Exec	Pgm Exec	Pgm Exec	R. Spearing	R. Spearing
	E. Weiler	E. Weiler	G. Asrar	G. Asrar	W. Readdy	W. Readdy
	C. Scolese	C. Scolese	M. Luther	M. Luther		
	K. Ledbetter	G. Riegler	J. Kaye	J. Kaye		
	G. Withbroe	G. Withbroe				
	M. Watkins	C. Holmes				
	A. Kinney	A. Kinney				
	R. Howard	P. Hertz				
	C. Hartman	C. Hartman				
J. Bergstralh						
JSC					J. Seyl	J. Seyl
					P. Duffin	P. Duffin
					V. Hall	V. Hall
					G. Bull, Jr.	G. Bull, Jr.
					G. Morse	G. Morse

(*) E-Mail notification not necessary for POES and GOES

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Table 2
Phone Trees for Missions in Development

Responsible Individual:	Individual to be called:		
	For Space Science Missions:	For Earth Science Missions:	For HEDS Missions:
Project Manager	D. Perkins	D. Perkins	D. Perkins
	Program Manager	Program Manager	Program Manager
D. Perkins	A. Diaz	A. Diaz	A. Diaz
	W. Townsend	W. Townsend	W. Townsend
	J. Ormes	F. Einaudi	
Program Manager	K. Ledbetter	T. Magner	R. Spearing
W. Townsend	C. Scolese	M. Luther	
A. Diaz	E. Weiler	G. Asrar	

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TABLE 3
Phone Trees for Operating Missions

Space Science	
Responsible Individual	Individual to be called
Flight Ops Team Leader	Mission Director
Mission Director	P. Burch
	R. Mahmot
Ron Mahmot	D. Perkins
	Project Scientist
D. Perkins	A. Diaz
	W. Townsend
	J. Ormes
W. Townsend	G. Riegler
	C. Holmes
	C. Scolese
A. Diaz	E. Weiler

Earth Science	
Responsible Individual	Individual to be called
Flight Ops Team Leader	Mission Director
Mission Director	R. Menrad
	P. Ondrus
P. Ondrus	D. Perkins
	Project Scientist
D. Perkins	A. Diaz
	W. Townsend
	F. Einaudi
W. Townsend	M. Luther
A. Diaz	G. Asrar

HEDS	
Responsible Individual	Individual to be called
TDRS Flight Ops Specialist	NCC Technical Manager
NCC Technical Manager	K. Tasaki
	P. Liebrecht
P. Liebrecht	D. Perkins
	R. Spearing
D. Perkins	A. Diaz
	W. Townsend

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CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	03/06/03	Initial Release

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