

W

September 28, 1998

TO: Code 100/Director, Goddard Space Flight Center

FROM: W/Assistant Inspector General for Auditing

SUBJECT: Final Report on the Audit of Contingency Planning at Goddard Space Flight Center (Assignment No. A-HA-98-017)  
Report Number IG-98-036

The subject final report is provided for your use and comments. Please refer to the executive summary for the overall audit results. We request that you provide additional comments by October 28, 1998, with detailed information on the corrective actions that are planned, ongoing, and completed. All recommendations will remain open until additional comments are received describing the specific actions taken. We will conduct a follow-up audit when the corrective actions are completed.

If you have questions concerning the report, please contact Mr. Brent Melson, Program Director for Information Technology Assurance Audits, at (202) 358-2588 or Mr. James Geith, Auditor-in-Charge, at (301) 286-7943. We appreciate the courtesies extended to the audit staff. See Appendix E for the report distribution.

*[Original signed by]*

Russell A. Rau

Enclosure

cc:

AO/Chief Information Officer

B/Chief Financial Officer

G/General Counsel

Y/Associate Administrator for Earth Science

**IG-98-036**

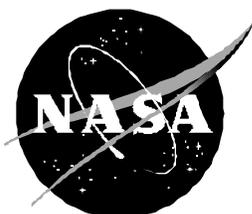
**AUDIT  
REPORT**

---

**CONTINGENCY PLANNING AT  
GODDARD SPACE FLIGHT CENTER**

**September 28, 1998**

---



National Aeronautics and  
Space Administration

**OFFICE OF INSPECTOR GENERAL**

## **ADDITIONAL COPIES**

To obtain additional copies of this audit report, contact the Assistant Inspector General for Auditing at 202-358-1232.

## **SUGGESTIONS FOR FUTURE AUDITS**

To suggest ideas for or to request future audits, contact the Assistant Inspector General for Auditing. Ideas and requests can also be mailed to:

Assistant Inspector General for Auditing  
NASA Headquarters  
Code W  
300 E Street, SW  
Washington, DC 20546

## **NASA HOTLINE**

To report fraud, waste, abuse, or mismanagement, contact the NASA OIG Hotline by calling 1-800-424-9183; 1-800-535-8134 (TDD); or by writing the NASA Inspector General, P.O. Box 23089, L'Enfant Plaza Station, Washington, DC 20026. The identity of each writer and caller can be kept confidential, upon request, to the extent permitted by law.

## **ACRONYMS**

DPI	Data Processing Installation
FIPS	Federal Information Processing Standard
GSFC	Goddard Space Flight Center
GHB	Goddard Space Flight Center Handbook
NASA	National Aeronautics and Space Administration
NHB	NASA Handbook
NPG	NASA Procedures and Guidelines
OMB	Office of Management and Budget
PACOR II	Packet Processor II
SOHO	Solar Heliospheric Observatory

# Table Of Contents

---

EXECUTIVE SUMMARY .....	1
FINDINGS AND RECOMMENDATIONS .....	3
SOHO CONTINGENCY PLAN .....	3
PACOR II BACKUP OPERATIONS PLAN.....	4
RISK ASSESSMENTS .....	6
CUSTOMER INPUT FOR RISK ASSESSMENTS .....	7
PLAN COORDINATION .....	8
RECOVERY STRATEGIES AND PLANS.....	10
APPENDIX A - OBJECTIVES, SCOPE, AND METHODOLOGY.....	12
APPENDIX B - SYSTEMS REVIEWED.....	14
APPENDIX C - SECURITY AND CONTINGENCY PLANNING .....	16
APPENDIX D - MANAGEMENT’S RESPONSE .....	18
APPENDIX E - REPORT DISTRIBUTION .....	20

# **EXECUTIVE SUMMARY**

---

## ***BACKGROUND***

NASA represents one of the larger, more complex, and diverse information system environments in the Federal Government. The Agency operations use information systems to support earth and space mission functions for a full array of processing environments, including scientific and engineering computing in academic, research center, production plant, and space vehicle environments. To ensure continued operations when emergencies occur that interrupt computer support, managers must develop and test contingency plans.

## ***OBJECTIVES***

The objective of the audit was to determine whether Goddard Space Flight Center (GSFC) had a management-approved contingency plan for the Packet Processor II (PACOR II) Data Capture Facility, the Solar Heliospheric Observatory (SOHO) Mission Operations Center, and the Hubble Space Telescope Data Operations Control Center. (See Appendix B for a description of each facility.) Specifically, we determined whether the contingency plans included appropriate procedures for emergency response, backup operations, and testing of the plans. We also determined whether plans were tested annually and whether personnel responsible for plan execution were adequately trained. (See Appendix A for additional information on objectives, scope, and methodology.)

## ***AUDIT RESULTS***

Emergency response procedures, testing, and personnel training for the Hubble Space Telescope Data Operations Control Center and PACOR II were adequate. Backup operations for the Hubble Space Telescope Data Operations Control Center were also adequate. Initially, GSFC lacked formal security and risk management plans for the SOHO Mission Operations Center. GSFC management and the Consolidated Network and Mission Operations Support contractor completed these plans for the SOHO Mission Operations Center on April 22, 1998.

However, GSFC's lack of a SOHO Mission Operations Center contingency plan could increase the time required to respond to an emergency. The lack of backup operations and recovery procedures for PACOR II could affect the conduct of the Tropical Rainfall Measurement Mission and cause delays in processing science data for its customers if processing capability is lost. Also, failure to analyze the potential effects of man-made and natural disasters on information systems increases the possibility of extended downtime and inability to support customer requirements.

***RECOMMENDATIONS***

Management should develop and implement a contingency plan for the SOHO Mission Operations Center; identify the effects of partial or total loss of information systems capability due to natural or man-made disasters; coordinate with system users on acceptable risks; and develop recovery strategies and procedures.

***MANAGEMENT'S  
RESPONSE***

Although management concurred with the recommendations and agreed to implement them, management did not provide details on corrective actions for each recommendation. Therefore, we request additional comments on the final report.

# FINDINGS AND RECOMMENDATIONS

---

**OVERALL EVALUATION** Contingency planning quality and implementation varied greatly among the data processing installations (DPIs) we reviewed as shown in the figure below.

<u>Audit Results</u>			
	<u>SOHO</u>	<u>PACOR II</u>	<u>HST</u>
Contingency Plan			
Emergency Response	N	A	A
Backup Operations	N	I	A
Recovery	N	I	I
Plan Testing	X	A	A
Training	X	A	A
Risk Management Plan	I	I	I
A - adequate			
I - improvements needed			
N - no formal procedures/plan existed			
X - not performed - plans did not exist			

**SOHO CONTINGENCY PLAN** The GSFC had no formal contingency plan for the SOHO Mission Operations Center because GSFC management did not give sufficient emphasis to this task. The lack of this plan reduced GSFC’s ability to respond to a loss of processing capability. However, GSFC and the contractor are now developing a contingency plan.

**Contingency Plans** Office of Management and Budget (OMB) Circular A-130, “Management of Federal Information Resources,” February 8, 1998; NASA Handbook (NHB) 2410.9A, “NASA Automated Information Security Handbook,” June 1993; and Goddard Handbook (GHB) 1600.1A, “Security Manual,” November 30, 1990; require managers to establish and periodically test contingency plans for performing their missions if automated support fails and for recovering from losses. (Additional background on contingency planning is in Appendix C.)

**GSFC Operations** Certain GSFC organizations implement and manage projects, while other Center organizations provide technical and operational support. The functional staff provides information and policy. Networks and Mission Service Projects is responsible for the implementation and management of end-to-end network

architectures and space operations, including mission operations and tracking, and data acquisition services for all missions supported by GSFC. The Information Systems Center provides technical support to Networks and Mission Service Projects. Contractor personnel operate the SOHO Mission Operations Center, Hubble Space Telescope Data Operations Control Center and PACOR II under the Consolidated Network and Mission Operations Support contract, NAS 5-31000.<sup>1</sup>

Although the SOHO Mission Operations Center was operational in December 1995, there was no formal contingency plan. The plan was not completed because GSFC management did not make formal documentation of the plan a priority.

The lack of an approved contingency plan increased risk that:

- emergency response actions may not be taken when needed
- down time would be extended if a partial or total loss of computer and network resources and physical facilities occurred.<sup>2</sup>

GSFC management and the contractor are developing a contingency plan.

***RECOMMENDATION 1***

The GSFC Center Director should direct the Associate Director of Projects for Networks and Mission Services to develop and test a SOHO Mission Operations Center contingency plan.

***MANAGEMENT'S  
RESPONSE***

Management concurred with the recommendation. Our overall evaluation of management's comments on the findings and recommendations follows Recommendation 6.

***PACOR II BACKUP  
OPERATIONS PLAN***

The PACOR II Contingency Plan was incomplete. No backup operations strategy and procedures existed to provide minimum data processing support to the PACOR II customers if it is

---

<sup>1</sup>The contract was awarded to AlliedSignal Technical Services Corporation on November 13, 1987, and had a total value of \$2.1 billion as of July 22, 1998.

<sup>2</sup>GSFC lost contact with the SOHO spacecraft on June 24, 1998, during maintenance operations. The lack of a formal contingency plan was not a factor in the loss of communication. The SOHO Mission Interruption Joint European Space Agency/NASA Investigation Board has determined that three errors may have led to the interruption of communications. The first two errors were contained in preprogrammed command sequences executed on ground system computers, while the last error was a decision to send a command to the spacecraft in response to unexpected telemetry readings.

inoperative for an extended period. Management did not ensure that a required backup operations plan was developed. As a result, science data processing for PACOR II customers may be delayed for an extended period and conduct of the Tropical Rain Measurement Mission may be affected.

OMB Circular A-130 requires managers to establish the capability to carry out the agency function performed by major applications if their automated support fails. NHB 2410.9A requires that contingency plans provide for minimizing interruptions and reasonable continuity of services in the event of adverse conditions that prevent normal operations. Further, Federal Information Processing Standard (FIPS) Publication 87, "Guidelines for ADP Contingency Planning," March 27, 1981; and GHB 1600.1A state that a contingency plan should contain three components:

- emergency response, which includes the immediate actions to protect life and property and to minimize the effects of the emergency;
- backup operations, which describe what must be done to initiate and effect backup operations; and
- recovery, which describes what to do to restore information system capabilities.

As of February 1998, PACOR II was supporting the following science projects:

- SOHO,
- International Solar Terrestrial Physics,
- Rossi X-ray Timing Experiment,
- Tropical Rain Measurement Mission,
- Solar Anomalous and Magnetospheric Particle Explorer,
- Hubble Space Telescope, and
- Compton Gamma Ray Observatory.

The contingency plan for the PACOR II did not have a backup operations strategy or procedures for meeting minimum customer

support requirements if the data processing capability was lost for an extended period. The PACOR II Risk Management Plan indicated that the PACOR II equipment and configuration were unique and that no other GSFC facility could support PACOR II operations if it was destroyed. If a disaster occurred, GSFC planned to store the spacecraft data at the ground stations until GSFC developed a new PACOR II system.

GSFC and contractor personnel assumed that not having a backup operations plan for the PACOR II was acceptable, because there was no funding for a backup PACOR II site.

The extended loss of PACOR II processing capability could affect the conduct of the Tropical Rain Measurement Mission project. Data from one series of observations are used to improve the algorithms used for future observations. Also, NASA's ability to provide science data according to a Memorandum of Understanding with the Japanese Space Agency would be impaired. Further, while GSFC is implementing a new data processing capability, unnecessary delays may occur in data processing and distribution for the Hubble Space Telescope, Rossi X-ray Timing Experiment, SOHO, and Compton Gamma Ray Observatory.

***RECOMMENDATION 2***

The GSFC Center Director should direct the Associate Director of Projects for Networks and Mission Services to establish and implement a strategy and procedures to support the PACOR II customers in the event of a disaster.

***MANAGEMENT'S  
RESPONSE***

Management concurred with the recommendation. Our overall evaluation of management's comments on the findings and recommendations follows Recommendation 6.

***RISK ASSESSMENTS***

When conducting risk assessments, contractor personnel for the Consolidated Network and Mission Operations Support contract did not analyze the potential effects of information system resource losses caused by natural and man-made disasters. GSFC management did not emphasize the need to determine the effects of the partial or total loss of information system resources on its projects. Failure to identify those effects can result in incomplete contingency plans, which could cause extended and unnecessary delays in processing science data.

NHB 2410.9A requires continual identification and analysis of potential threats to NASA's computer and network environments.

Also, FIPS 87 states that the development of a contingency plan depends on recognizing the potential consequences of undesirable events.

Goddard Management Instruction 1040.6, “NASA/GSFC Emergency Management Plan (Greenbelt Facilities)” (Emergency Management Plan), October 6, 1995; identified a high possibility of structural fire with significant potential loss. The Emergency Management Plan also identified a medium to high possibility of natural disasters, such as, tornadoes, lightning, hurricanes, and winter storms with limited to catastrophic potential loss.

Although potential disasters had been identified, the Hubble Space Telescope, PACOR II, and SOHO risk assessments did not include an analysis of partial or total loss of information system support. The GSFC Computer Security Manager emphasized physical and logical security when conducting risk analyses for data processing installations. The GSFC Computer Security Manager told the contractor to concentrate on physical and logical security and to assume GSFC would provide the required facility, utility, communications, hardware, and software resources. As a result, contractor personnel did not identify the potential effects due to the loss of processing capability on GSFC's projects, such as the Tropical Rain Measurement Mission. Because of the limited risk assessments, the effects of man-made and natural disasters were not adequately covered in the PACOR II backup operations and recovery plans.

***RECOMMENDATION 3***

The GSFC Center Director should direct the Associate Director of Projects for Networks and Mission Services to conduct analyses to determine how GSFC's projects will be affected by a partial or total loss of information systems capability as a result of natural or man-made disasters. Analyses results should be documented in the risk management plans and used in developing contingency plans.

***MANAGEMENT'S  
RESPONSE***

Management concurred with the recommendation. Our overall evaluation of management's comments on the findings and recommendations follows Recommendation 6.

***CUSTOMER INPUT FOR  
RISK ASSESSMENTS***

The GSFC Multi-Mission Information Processing Facility Owner approved the risk management plan that stated not having a disaster recovery plan (backup operations plan) for the PACOR II was an acceptable risk. In approving the plan, the GSFC Multi-Mission Information Processing Facility Owner did not follow existing

policy that system users be consulted. The decision increased the risk that PACOR II customers may not get timely processing of their science data during disaster recovery.

The requirements of customers who use information systems can change the level of acceptable risk. OMB Circular A-130 requires consultation with system users when making decisions on the level of service needed at any particular time and on priorities for service restoration.

The GSFC Multi-Mission Information Processing Facility includes PACOR II. The GSFC Multi-Mission Information Processing Facility Owner did not follow the Circular and approved the PACOR II Risk Management Plan without coordinating with the PACOR II customers and obtaining their approval of the stated risks. The risk assessment indicated that the PACOR II equipment and configuration were unique and that no other GSFC facility could support PACOR II operations if it was destroyed. As previously discussed, if a disaster occurs, the GSFC Multi-Mission Information Processing Facility Owner planned to store the science data at the ground stations until GSFC could develop a new PACOR II system. Project management personnel for the Tropical Rain Measurement Mission, SOHO, Rossi X-ray Timing Experiment, and Compton Gamma Ray Observatory confirmed they had not been consulted about the potential effects on their projects.

The actions of the GSFC manager unnecessarily increased the risk to the timely conduct of PACOR II data processing and to distribution of science data.

***RECOMMENDATION 4***

The GSFC Center Director should direct the Associate Director of Projects for Networks and Mission Services to consult with managers of projects using PACOR II during the risk assessment process.

***MANAGEMENT'S  
RESPONSE***

Management concurred with the recommendation. Our overall evaluation of management's comments on the findings and recommendations follows Recommendation 6.

***PLAN COORDINATION***

Information Systems Center personnel did not coordinate contingency plans with GSFC Emergency Preparedness Program personnel because there was no clear requirement to do so. As a

result, the personnel responsible for the overall GSFC emergency preparedness plan were unaware of potential emergency support requirements for the DPIs.

Coordination of contingency plans with supporting organizations is necessary to confirm the support that will be provided by other organizations and to ensure that supporting organizations understand their responsibilities.

The Emergency Management Plan establishes an operating structure for managing an emergency and assigns functional management responsibilities for various activities, such as: direction and control, security, fire and rescue, emergency public information, and utilities control. The Emergency Preparedness Coordinator is assigned to the Safety, Environmental, and Security Office. He acts as the focal point for the Emergency Management Task Group, which is responsible for developing and maintaining the emergency management plans and procedures.

Under the Consolidated Network and Mission Operations Support contract, the Government is responsible for providing the facilities, utilities, communications, hardware, and software. Replacing these resources in an emergency would require planning and assistance from many GSFC activities, such as Facilities Management, Procurement, and the Comptroller.

Information Systems Center personnel and contractor personnel, supporting the Hubble Space Telescope and Pacor II did not coordinate the contingency plans with the Goddard Space Flight Center Emergency Preparedness Coordinator because there was no formal requirement to do so. As a result, the GSFC Emergency Preparedness Coordinator was unaware of the support the DPIs may need from the Center in emergency situations.

After we brought these matters to GSFC management's attention, Information Systems Center and contractor personnel supporting Hubble Space Telescope modified their coordination procedures to include the GSFC Emergency Preparedness Coordinator.

***RECOMMENDATION 5***

The GSFC Center Director should direct the Associate Director of Projects for Networks and Mission Services to coordinate all data processing installation contingency plans with the GSFC Emergency Preparedness Coordinator.

***MANAGEMENT'S  
RESPONSE***

Management concurred with the recommendation. Our overall evaluation of management's comments on the findings and recommendations follows Recommendation 6.

***RECOVERY STRATEGIES  
AND PLANS***

Contingency plans lacked recovery strategies and procedures for GSFC project management and supporting activities. Although many GSFC activities would participate in restoring an information system following physical destruction or damage, recovery procedures were limited to contractor actions. These conditions existed because project management did not emphasize this aspect

of contingency planning. As a result, restoration of information system facilities and capabilities may be delayed during disaster recovery.

OMB Circular A-130 and NHB 2410.9A require managers to develop recovery plans for various situations in which automated support is lost. GHB 1600.1A states that a contingency plan should contain a recovery plan as one of the components.

As discussed in the previous finding, the Government is responsible for providing most of the resources needed to operate the GSFC information system facilities. The contractor is responsible for operating them. Thus, rapid restoration of a DPI following physical destruction or major damage is dependent on actions by many GSFC functional and programmatic activities.

The contingency plans for Hubble Space Telescope and PACOR II do not identify a recovery strategy, and the post-disaster recovery procedures were incomplete. Except for one section in the Hubble Space Telescope contingency plan, the procedures were limited to contractor actions. Project management neither emphasized recovery strategies and procedures nor ensured they were included in contingency plans.

If existing facilities or equipment are severely damaged or destroyed, the lack of a strategy and procedures could delay restoration of data processing capabilities and facilities.

***RECOMMENDATION 6***

The GSFC Center Director should direct the Associate Director of Projects for Networks and Mission Services to develop recovery strategies and procedures for each system and implement the strategies and procedures in the DPI contingency plans.

***MANAGEMENT'S  
RESPONSE***

Management concurred with the recommendations and stated all will be completed by March 31, 1999.

***EVALUATION OF  
MANAGEMENT'S  
RESPONSE***

Although we consider the comments responsive, management did not provide detailed, corrective actions for each recommendation. Therefore, we request additional comments in response to the final report. We will conduct a follow-up audit once specific actions have been taken.

## **OBJECTIVES, SCOPE, AND METHODOLOGY**

---

### ***OBJECTIVES***

The audit objective was to determine whether GSFC has a management-approved contingency plan for selected DPIs that included appropriate procedures for:

- emergency response,
- backup operations, and
- testing.

The audit also determined whether plan testing was performed annually and whether personnel responsible for plan execution were adequately trained.

### ***SCOPE AND METHODOLOGY***

We reviewed contingency planning for three DPIs:

- the PACOR II,
- the SOHO Mission Operations Center, and
- the Hubble Space Telescope Data Operations Control Center

We selected two of the three Data Processing Installations based on GSFC management's recommendations. We selected the Hubble Space Telescope Data Operations Control Center based on the importance of the program it supported.

Because contingency plans should include actions for the potential consequences of undesirable events, we reviewed the risk management plans to determine which risks had been identified.

As part of the audit, we reviewed policies, plans, and operating procedures; DPI operations records for the period of January through May 1998; and training lesson plans.

### ***MANAGEMENT CONTROLS REVIEWED***

We interviewed GSFC and contractor personnel and performed audit tests and procedures required to determine that controls were in place and adequate for:

- automated information security planning as it pertains to conducting risk assessments and contingency planning,

- performing risk assessments and developing risk management plans, and
- contingency planning.

The management controls were adequate. However, as discussed in the findings, there is a lack of compliance with established controls and procedures.

***AUDIT FIELD WORK***

We performed field work at GSFC from January through August 1998. We conducted the audit in accordance with generally accepted government auditing standards.

## SYSTEMS REVIEWED

---

***HUBBLE SPACE  
TELESCOPE DATA  
OPERATIONS CONTROL  
CENTER***

The Hubble Space Telescope Data Operations Control Center supplies the real-time command, control, and telemetry processing for the operation, health, and safety of the Hubble spacecraft. The Hubble Space Telescope Servicing and Maintenance System facility is a backup facility for the Hubble Space Telescope mission operations room and the Data Operations Control Center. The Servicing and Maintenance System facility is capable of supporting Hubble Space Telescope's real-time operations during an emergency. Monthly checks of the Servicing and Maintenance System equipment and quarterly activation of the facility, including transfer of operational control, provided excellent training and significantly increased the probability of smooth implementation of backup operations in an emergency.

***PACKET PROCESSOR II  
DATA CAPTURE  
FACILITY***

The PACOR II handles data for space flight missions and provides three forms of service: real-time, routine production, and quick-look. PACOR II:

- strips data packets from telemetry frames,
- reassembles packets,
- sorts data by selected fields in the packet,
- merges packets from different data capture sessions, and
- delivers the scientific data sets and other related products to the user.

***SOLAR HELIOSPHERIC  
OBSERVATORY MISSION  
OPERATIONS CENTER***

The SOHO Mission Operations Center is the central facility for all SOHO spacecraft operations support and provides the interface between SOHO projects and their spacecraft. It is used for:

- conducting observatory health and safety operations,
- acquiring telemetry and other project-related spacecraft activities,

- scheduling of the spacecraft tracking, and
- constructing spacecraft and instrument commands and loads through the Command Management System.

## **SECURITY AND CONTINGENCY PLANNING**

---

### ***SECURITY PLANNING***

OMB Circular A-130, Appendix III, contains two sets of controls, one for general support systems and one for major applications. The general support system controls state that security plans shall include the requirement to “establish and periodically test the capability to continue providing service within a system based on the needs and priorities of the participants of the system.” The major application controls include a requirement to “establish and periodically test the capability to perform the agency function supported by the application in the event of failure of its automated support.”

NHB 2410.9A implements the OMB Circular guidance. NHB 2410.9A requires an automated information security plan for each DPI. Where multiple computer systems or program applications exist, multiple plans may be appropriate. The security plan serves as the management summary of more detailed information associated with the basic elements of the DPI’s automated information security program. The security plan serves as a basis for informing management of security posture and needs and for performing security self-assessments, management reviews, and security reviews.

The Handbook states that a DPI is established by drawing an imaginary boundary around a logical grouping of information, computing, and telecommunications resources for the purpose of managing them as an identifiable entity.

GHB 1600.1A requires an automated information security plan for each automated system and a risk management plan and a contingency plan for each DPI.

It is often necessary to treat multiple computer systems or program applications within a DPI as separate DPIs. This approach makes it easier to manage the security programs and associated risk management and contingency plans for a particular computer system or major application. For example, the GSFC Computer Security Manager used organizational structure as the basis for defining DPIs. This decision resulted in 35 separate DPIs. The DPI for Networks and Mission Service Projects includes 114 facilities located worldwide that support space operations.

***CONTINGENCY  
PLANNING***

NHB 2410.9A requires two types of emergency plans: disaster recovery plans for DPIs and contingency plans for applications. Disaster recovery plans contain procedures for emergency response, extended backup operations, and post-disaster recovery should a DPI experience a partial or total loss of computer and network resources and physical facilities. Contingency plans describe procedures and identify personnel necessary to respond to abnormal situations and ensure that computer application sponsors and owners can continue to process important applications in the event that computer support at the primary DPI is interrupted. The required contents of the two plans are the same.

Continual testing and evaluation of the plan is an important aspect of contingency planning. Data processing operations are often volatile in nature resulting in frequent changes to equipment, programs, documentation, and the way daily business is conducted. A plan that is not subjected to extensive testing on a scheduled basis may fail when needed.

## MANAGEMENT'S RESPONSE

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
Greenbelt, MD 20771



Reply to Attn of: 201

SEP 24 1998

**TO:** NASA Headquarters  
Attn: W/Assistant Inspector General for Auditing

**FROM:** 100/Director

**SUBJECT:** GSFC Response to Office of Inspector General (OIG) Draft Report  
On the Audit of Contingency Planning at GSFC, dated August 28, 1998,  
Assignment Number A-HA-98-017

Thank you for providing us with an assessment of the adequacy of our contingency planning and emergency response procedures associated with the Packet Processor II (PACORII) Data Capture Facility, the Solar Heliospheric Observatory Mission Operations Center (SOHOMOC), and the Hubble Space Telescope Data Operations Control Center (HSTDOCC).

We are pleased that the OIG found that emergency response procedures, testing, and personnel training for the HSTDOCC and PACOR II were adequate and that the backup procedures for the HSTDOCC were also adequate. During the audit, discussions with the OIG auditor prompted GSFC to initiate actions that will improve our contingency planning processes, and we appreciate that the OIG acknowledges these efforts in its report.

We concur with the six recommendations in the OIG draft report and will implement all of the OIG's recommended actions. The GSFC officials responsible for implementing the corrective actions are as follows:

Action Official:	Recommendations 1 through 6	A. Hughes/Code 583
Closure Officials:	Recommendation 1	J. Gatto/Code 581
	Recommendation 2	W. Kelly/Code 581
Concurring Official:	Recommendations 3 through 6	K. Tasaki/Code 450
	Recommendations 1 through 6	P. Liebrecht/Code 450

All corrective actions are scheduled to be completed by March 31, 1999.

2

Please call Ms. Barbara Sally, GSFC Audit Liaison Representative, at 301-286-8436 if you have any questions or need further assistance.



A. V. Diaz

cc:

HQ/AO/Mr. L. Holcomb  
HQ/AO/Ms. C. Simonson  
HQ/JM/Ms. D. Green  
HQ/YB/Mr. G. Williams  
HQ/YB/Ms. D. Santa

## **REPORT DISTRIBUTION**

---

### **National Aeronautics and Space Administration (NASA) Headquarters**

Code AO/Chief Information Officer  
Code B/Chief Financial Officer  
Code G/General Counsel  
Code J/Associate Administrator for Management Systems and Facilities  
Code JM/Director, Management Assessment Division  
Code L/Associate Administrator for Legislative Affairs  
Code W/Assistant Inspector General for Inspections, Administrative Investigations and Assessments  
Code Y/Associate Administrator for Earth Science

### **NASA Field Installations**

Director, Ames Research Center  
Acting Director, Dryden Flight Research Center  
Director, Goddard Space Flight Center  
Associate Director of Projects for Networks and Mission Services, Goddard Space Flight Center  
Director, Jet Propulsion Laboratory  
Director, Lyndon B. Johnson Space Center  
Director, John F. Kennedy Space Center  
Director, Langley Research Center  
Director, Lewis Research Center  
Director, George C. Marshall Space Flight Center  
Director, John C. Stennis Space Center

### **NASA Offices of Inspector General**

Ames Research Center  
Dryden Flight Research Center  
Goddard Space Flight Center  
Jet Propulsion Laboratory  
Lyndon B. Johnson Space Center  
John F. Kennedy Space Center  
Langley Research Center  
George C. Marshall Space Flight Center  
John C. Stennis Space Center

## **Non-NASA Federal Organizations and Individuals**

Assistant to the President for Science and Technology Policy  
Deputy Associate Director, Energy and Science Division, Office of Management and Budget  
Budget Examiner, Energy Science Division, Office of Management and Budget  
Associate Director, National Security and International Affairs Division,  
    General Accounting Office  
Special Counsel, House Subcommittee on National Security, International Affairs, and Criminal  
    Justice  
Professional Assistant, Senate Subcommittee on Science, Technology, and Space

## **Chairman and Ranking Minority Members - Congressional Committees and Subcommittees**

Senate Committee on Appropriations  
Senate Committee on VA and HUD and Independent Agencies  
Senate Committee on Commerce, Science and Transportation  
Senate Subcommittee on Science, Technology and Space  
Senate Committee on Governmental Affairs  
House Committee on Appropriations  
House Subcommittee on VA and HUD and Independent Agencies  
House Committee on Government Reform and Oversight  
House Committee on Science  
House Subcommittee on Space and Aeronautics, Committee on Science

## **Congressional Member**

The Honorable Pete Sessions, U.S. House of Representatives

## **Major Contributors to the Report**

Gregory B. Melson, Program Director, Information Assurance  
James W. Geith, Auditor