Goddard Procedures and Guidelines

DIRECTIVE NO.	GPG 5330.1A	**APPROVED BY Signature:**	*Original Signed By*
EFFECTIVE DATE:	October 6, 1998	**NAME:**	A. V. Diaz
EXPIRATION DATE:	October 6, 2003	**TITLE:**	Director

Responsible Office: 300/Office of Systems Safety and Mission Assurance

Title: IN-PROCESS AND FINAL INSPECTION AND TEST

Preface

P1. PURPOSE

This procedure describes the process for performing and documenting in-process and final inspection and test of Goddard Space Flight Center (GSFC) products to verify that specified requirements for the product are met.

P2. APPLICABILITY

This procedure applies to all GSFC hardware and software products covered by the GSFC Quality Management System.

Note: The approval and release of non-hardware/software science research products (e.g., research papers, publications, etc.) is accomplished in accordance with applicable Directorate-level procedures which may be different than the process described herein for hardware and software products.

P3. AUTHORITY

NPD 8730.3, NASA Quality Management System Policy (ISO 9000)

P4. REFERENCES

a. GPG 1710.1. Corrective and Preventive Action

b. GPG 5330.3, Inspection and Test Status

c. GPG 5340.2, Control of Nonconforming Product

d. GPG 6400.1, Handling, Storage, Packaging, Marking, Preservation, and Transportation

e. GPG 8730.1, Calibration and Metrology

P5. CANCELLATION

GPG 5330.1, In-Process and Final Inspection and Test

Procedure

1. DEFINITIONS

a. Product Design Lead (PDL) - The manager or leader with overall responsibility for managing the design activity, managing the technical and organizational interfaces identified during design planning, and where required, forming and leading the Product Design Team. The term refers to flight project managers, mission managers, instrument managers, subsystem technical managers, integrated product development team leaders, lead engineers, etc.

b. Final Inspection and Testing - A verification that the finished product conforms to specified requirements. The verification assures that all specified inspection and tests, including those specified either on receipt of product or in process, have been carried out and that the results meet specified requirements as required by the quality plan and/or documented procedures.

c. In-process Inspection and Testing - A verification by inspection and/or testing of quality characteristics, defined by project quality requirements or documented procedures, during the processing of a product.

2. IMPLEMENTATION

2.1 Establish Requirements and Obtain Approvals

2.1.1 The PDL shall determine and document the work, including inspections and tests, to be conducted on the product on the Work Order Authorization (WOA), or equivalent for application to software products, in accordance with GPG 5330.3. Any special items or equipment needed for the inspections or tests shall be identified. No work event shall be performed prior to its planning on the WOA or equivalent.

2.1.2 Obtain and document needed approvals for the work from the appropriate personnel.

2.2 Inspections and Tests

2.2.1 Prior to performing any work, the responsible work performer or inspector, as applicable and identified on the WOA or equivalent, shall verify that (1) previous product inspections and tests have been completed, (2) identified controlling documentation (e.g., drawings, test procedures, etc.) is available and of the proper revision, (3) applicable measuring and test equipment and handling equipment is calibrated and certified as applicable in accordance with GPG 8730.1 and GPG 6400.1 respectively.

2.2.2 Perform the specified work and associated inspections and tests identified on the WOA. Product shall not progress beyond a planned inspection/test event until satisfactory completion (including the documentation of nonconforming product in accordance with GPG 5340.2) of the inspection/test.

Note: Documentation of work events, including nonconforming product identification may be postponed until the end of the work shift in which the event occurs if the affected product is in a clean room facility and access to both paper and electronic event documentation is outside the facility. In this case, all documentation shall be completed at the end of the work shift in which the event(s) occurred.

2.2.3 The responsible work performer or inspector shall document work events and inspections and tests completed, the results, and any non-conformances found in accordance with GPG 5330.3 and GPG 5340.2.

2.2.4 Process all nonconforming product in accordance with GPG 5340.2.

Product released for continued processing prior to satisfactory completion of in-process work, inspection, or testing shall be documented and processed as a nonconformance in accordance with GPG 5340.2. Product released with no intention for eventual accomplishment of the originally planned work, inspection, and/or testing shall be dispositioned "use-as-is". Product released with the intention of eventually accomplishing originally planned events shall be dispositioned as "rework" with the necessary production planning to accomplish same. Such urgent release activities do not preclude the implementation of corrective action procedures in accordance with GPG 1710.1.

2.3 Final Product Release to Customer or Launch Site Responsibility

2.3.1 Upon satisfactory completion of all planned work and inspections and tests, the designated PDL shall verify and document on the applicable WOA that the final product has been verified as satisfactorily completing all planned activities, nonconforming product has been dispositioned in accordance with GPG 5340.2, and that documentation/quality records are complete, authorized, and available.

3. RECORDS

Work Order Authorization (WOA) or equivalent for application to software product (Maintained by the PDL).

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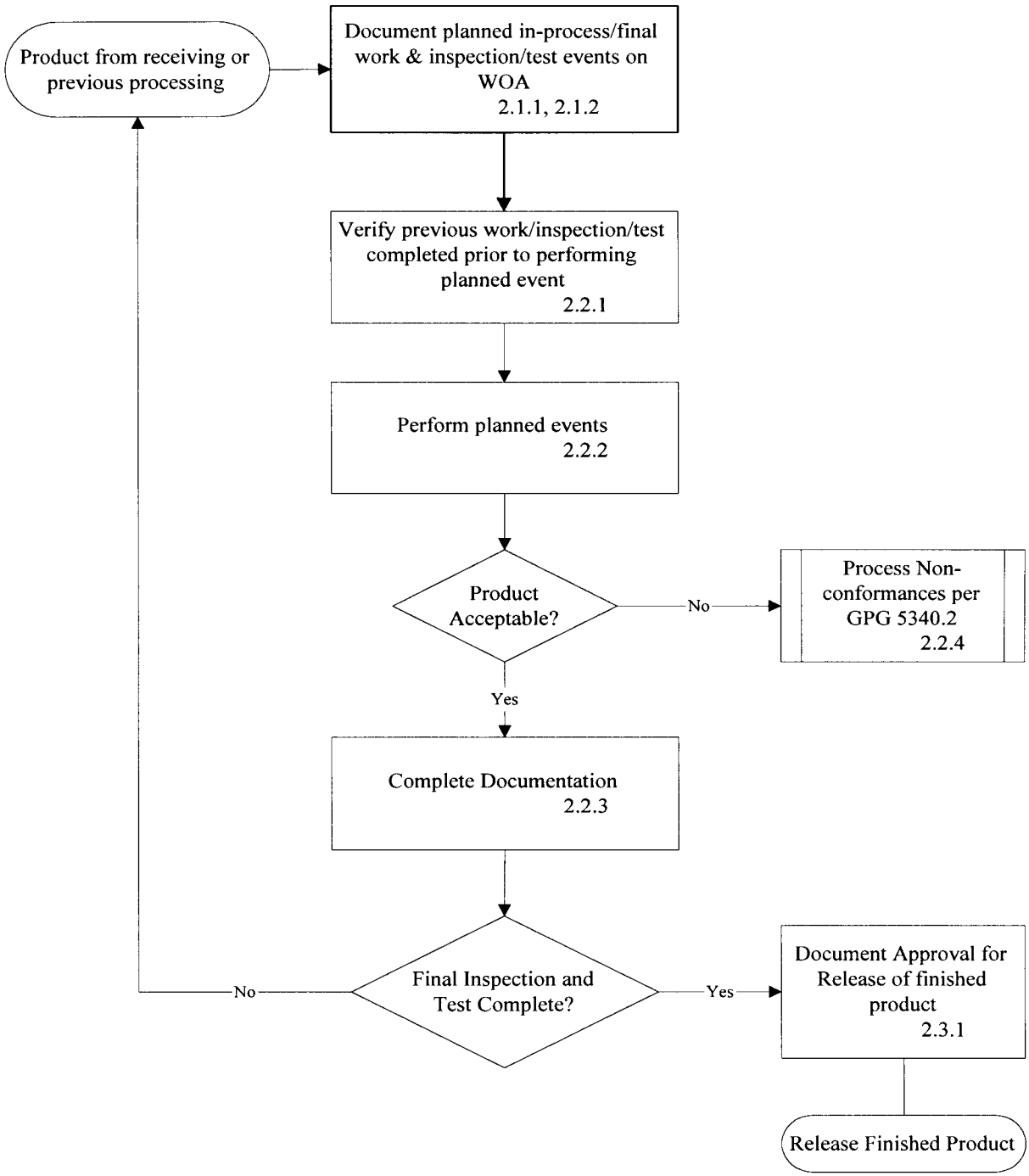
In-Process/Final Inspection and Test Flowchart



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CHANGE HISTORY LOG

Revision	Date	Description of Changes
Baseline	8/12/98	
A	10/6/98	Header and footer format changes. Added Note in P2 regarding science research products. Expanded 2.2.1 required activities to include calibration and handling certification verification. Identified quality records maintenance responsibility.