Procedures and Guidelines

DIRECTIVE NO. 461-PG-1410.2.1C
EFFECTIVE DATE: January 21, 2005
EXPIRATION DATE: January 21, 2010

APPROVED BY Signature: Original Signed
NAME: Kenneth Ford
TITLE: STP Program Manager

COMPLIANCE IS MANDATORY

Responsible Office: 461/Solar Terrestrial Probes (STP) Program Office
Title: STP Configuration Management Procedure

PREFACE

P.1 PURPOSE

The purpose of the Solar Terrestrial Probes (STP) Program Configuration Management (CM) Procedure is to define technical CM requirements for the STP Program and Projects to meet the CM requirements defined by National Aeronautics and Space Administration (NASA) Headquarters and by the Goddard Space Flight Center (GSFC).

P.2 APPLICABILITY

These procedures apply to the STP Program Office and all STP Projects. STP Projects may establish additional CM requirements, as long as they meet the requirements of this document and other applicable directives. STP Projects may establish different CM procedures if they submit a Configuration Management Procedure and get approval from the STP Program Manager.

These procedures do not apply to STP directives posted on the Goddard Directives Management System (GDMS). Directives will be controlled using the procedures described in GPR 1410.1.

P.3 AUTHORITY

GPR 1410.2 – Configuration Management

P.4 REFERENCES

a. GPR 1410.2 – Configuration Management
b. GPR 5100.4 – Supplier Quality Audits
c. 461-FORM-0001 – Configuration Control Board Directive
d. 461-FORM-0002 – Configuration/Change Approval Request

P.5 CANCELLATION

NONE

P.6 SAFETY

NONE

P.7 TRAINING

NONE

P.8 RECORDS

Record Title	Record Custodian	Retention
Completed Configuration Change/Approval Request (CCR) and all attachments	Configuration Management Office (CMO)	NRRS 8/9 a&b Per Records Retention Schedule NPR 1441.1 Retire to FRC when 2 years old. Destroy when 30 years old. Earlier destruction is authorized upon receipt of specific authorization from Program Manager.

STP organizations will maintain all records necessary to document the processing of CCRs. This may include such items as:
a. Configuration Control Board (CCB) Records
b. CCB correspondence
c. Attachments

This may be established by the CCB on a case-by-case basis, or defined in the Project's CM procedures. If done on a case-by-case basis, it shall be the CCB chairman's responsibility to define the record requirements for each CCR.

P.9 METRICS

a. Processing time for a CCR
b. Implementation time for configuration changes

The metrics shall be tracked by the CMO and reported to the Program or Project manager, as appropriate, quarterly.

P.10 DEFINITIONS

a. Baseline – The point at which a formal configuration control begins, and after which all changes must be tracked and approved.

b. Class I Changes – A change where one or more of the following items will be affected: 1) baselined documentation (except for typographical errors, simple clarification, or other examples of Class II documentation changes); 2) technical requirements contained in the product Configuration Item (form, fit, function); 3) contract end items/requirements (cost or schedule); 4) interfaces; 5) weight/power/data rate allocations; 6) technical risks; and 7) science performance. All proposed Class I changes are submitted for CCB approval.

c. Class II Changes – A change that does not fall within the definition of Class I change. Examples of Class II changes are: 1) a change in documentation only (such as correction of errors, addition of

clarifying notes or views); 2) a minor change in hardware (such as substitution with an approved alternative material) which does not affect any item listed under Class I changes; and 3) drawing changes that do not affect a baseline or interface. A Class II change does not require Project CCB review unless it will be written against CM-controlled documents.

d. Configuration Control - Configuration control involves the systematic evaluation, coordination, and formal approval/disapproval of proposed changes and implementation of all approved changes to the design and production of a Configuration Item (CI) whose configuration has been formally approved by either the contractor or NASA.

e. Configuration Item (CI) – the term applied to the product and/or selected components which are designated by the Program/Project as subject to CM requirements and procedures. The "product" may be a system, subsystem, equipment, instrument package, data, software, or component, and includes its related documentation.

f. Configuration Status Accounting and Reporting – Configuration accounting will be the activity that produces records and reports of CI descriptions and all changes to the CI. It includes the recording and reporting of significant information needed to effectively manage configuration items, including such activities as maintaining the Controlled Documents List, status tracking of CCRs, status of CCB activities, and the subsequent reporting of such information to personnel and organizations associated with the Program/Project.

g. Deviation – a specific written authorization, granted *prior to* the manufacture or testing of an item, to depart from a particular performance or design requirement of a specification, drawing, or document. Requests for Deviations are classified as Class I and undergo the same approval routing as configuration changes.

h. Waiver – a specific written authorization, granted *after* the manufacture or testing of an item, to depart from a particular performance or design requirement of a specification, drawing, or other document, but will be considered suitable for use "as is". Requests for Waivers are classified as Class I changes and undergo the same approval routing as configuration changes.

P.11 ABBREVIATIONS AND ACRONYMS

CCB	Configuration Control Board
CCBD	Configuration Control Board Directive
CCR	Configuration Change/Approval Request
CI	Configuration Item
CM	Configuration Management
CMO	Configuration Management Officer
GPR	Goddard Procedural Requirements
NGIN	Next Generation Integrated Network
PDR	Preliminary Design Review
PG	Procedures and Guidelines

PROCEDURES

In this document, a requirement is identified by "shall," a good practice by "should," permission by "may" or "can," expectation by "will," and descriptive material by "is."

1.0 ORGANIZATION OF THE STP PROGRAM OFFICE CM SYSTEM

The STP CM system uses CCBs at both the Program and Project levels. This allows for CM to be handled at the most appropriate level within the organization, regardless of type of CI. For each organization level, types of configured items have been assigned for configuration management.

This section addresses Configuration Management requirements for document configuration control only. Configuration Control for products is not required at the Program Office Level, but shall be addressed as necessary in project CM procedures.

1.1 CONFIGURATION MANAGEMENT RESPONSIBILITIES

The STP Program Manager shall be responsible for ensuring that the STP Program and Projects perform the configuration control functions necessary to meet the requirements of GSFC and NASA. The STP Program Manager will designate a Configuration Management Officer (CMO) responsible for oversight and coordination of Program configuration control activities. Project managers shall each designate a CMO responsible for oversight and coordination of their respective projects' configuration control activities, although an individual CMO may handle multiple projects.

1.2 CONFIGURATION MANAGEMENT OFFICER (CMO)

The CMO shall be responsible for the overall control, evaluation, and disposition of proposed configuration changes to establish technical and CM baselines. The CMO serves as the central point of contact for processing configuration changes and reviews CCRs to ensure compliance with Program and/or Project requirements. The CMO also coordinates changes to baselined documentation with appropriate internal and external organizations. The CMO ensures that Configuration Status Accounting and Reporting activities are performed as required and maintains the Next Generation Integrated Network (NGIN) CM tool.

The STP Program CMO shall be responsible for performing Program configuration management activities identified in this CM procedure. STP projects shall designate project CMOs with corresponding responsibilities at the project level, and will handle product CM as appropriate.

1.3 CONFIGURATION CONTROL LEVELS

The STP organization has three levels of CCBs, as shown in Figure 1-1. The STP projects are the focal points for all activities related to their missions. Each project shall develop and maintain, within the requirements of this procedure, a system to accomplish four major functions, which include Configuration Identification, Configuration Control, Configuration Status Accounting, and Configuration Verification, for each appropriate CM level.

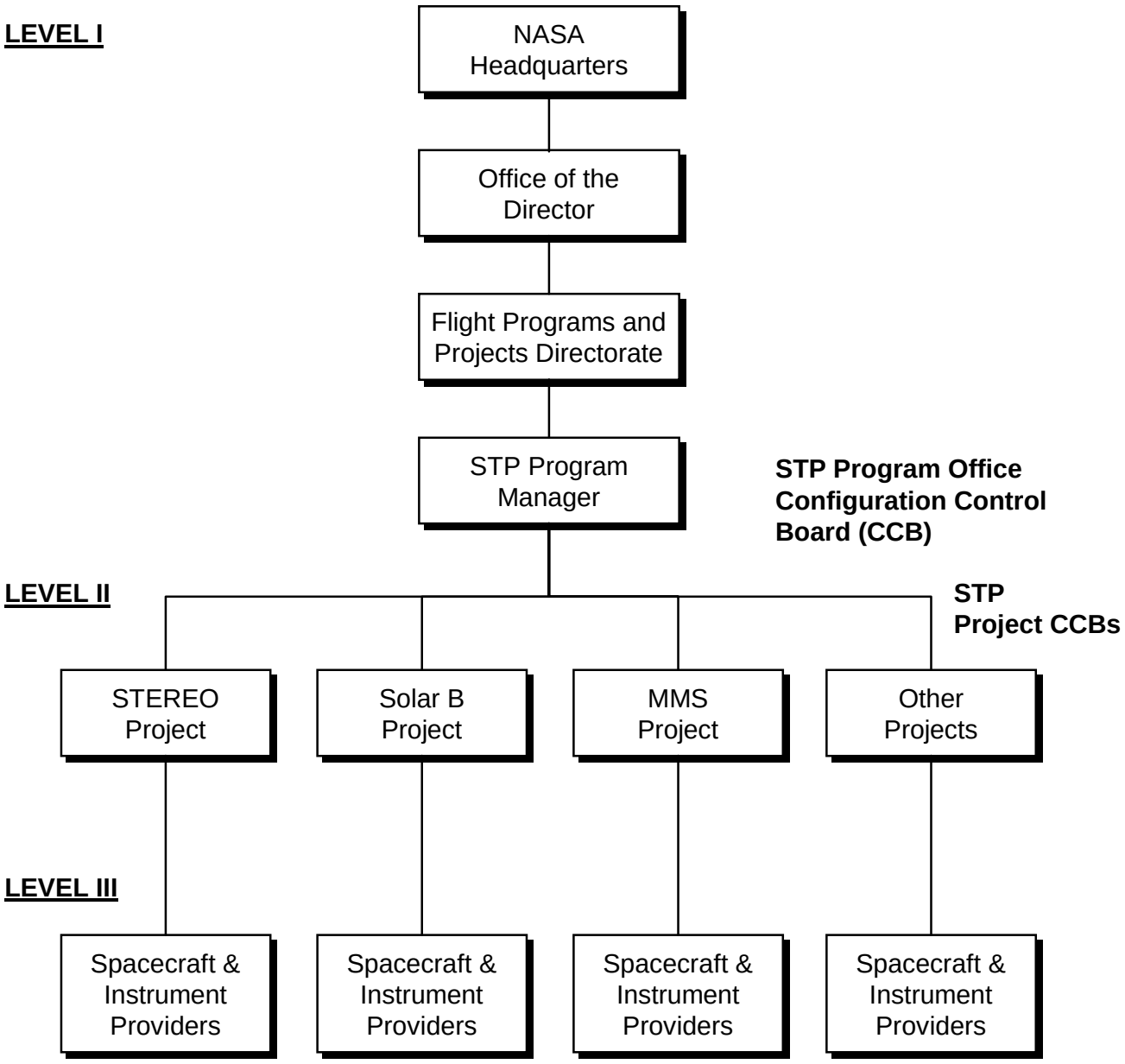

Figure 1-1
STP Program CCB Levels

1.3.1 Level I Program Control Board

The GSFC STP Level I Program CCB shall be chaired by the STP Program Manager, who has overall responsibility for all STP Program and project activities, including controlling all STP Level I requirements. The STP Program CCB shall disposition major change requests when proposed changes will alter Level I controlled mission objectives, cost targets, or schedules.

When a Level I change impacts the STP Program Plan, the Program CMO shall prepare a companion CCR to change the Program Plan, for simultaneous presentation to the STP Program CCB. Changes to the STP Program Plan shall be forwarded to the GSFC Center Director and to NASA Headquarters for approval by the Associate Administrator for the Science Mission Directorate. The STP Program CCB will review and disposition any issues that may occur in conflicts concerning proposed change requests. In addition, this board controls changes to STP Program Office documentation.

See Figure 1-2 for a typical Level I change flow. Changes that affect only the internal functioning of the Program Office, and do not meet the criteria above for major changes requiring Level I approval, shall be processed by the STP Program CCB in the manner defined for Level II.

1.3.2 Level II Project CCBs

Level II CCBs shall be established for each project within the STP organization at GSFC. The project CMO shall be responsible for coordinating the Level II project CCB's CM activities and implementing uniform policies and procedures for an effective CM system.

The Systems Assurance Manager (SAM) assigned to each project shall be responsible for ensuring that changes are in conformance with Performance Assurance Requirements documents and for verifying the quality assurance documentation for controlled items.

Each Level II CCB is charged with evaluating all proposed changes and providing their assessment to the cognizant CCB chairperson. Each project shall ensure the following is implemented:

- Establish a list of applicable CIs.
- Review and approve the baselines to be established during the development lifecycle.
- Establish the documentation required to adequately and accurately describe each CI at each baseline.
- Verify, approve, and place under configuration control the documentation associated with the CI (and/or the CI itself) as appropriate for each Configuration Baseline.
- Define the format and level of detail required in the Controlled Documents List (CDL).
- Evaluate all CCRs submitted to the Board and present recommendations to the CCB Chairperson.
- Formally document CCB actions relative to the proposed changes and ensure that the impact on all projects CIs is thoroughly considered in terms of performance, cost, schedule, and performance assurance.
- Continuously evaluate instrument and spacecraft providers' CM system(s) to monitor CM practices and compliance to this CM procedure.
- Provide a formal method of tracking CCRs from inception to closeout and provide Configuration Status Reporting (See Section 5).

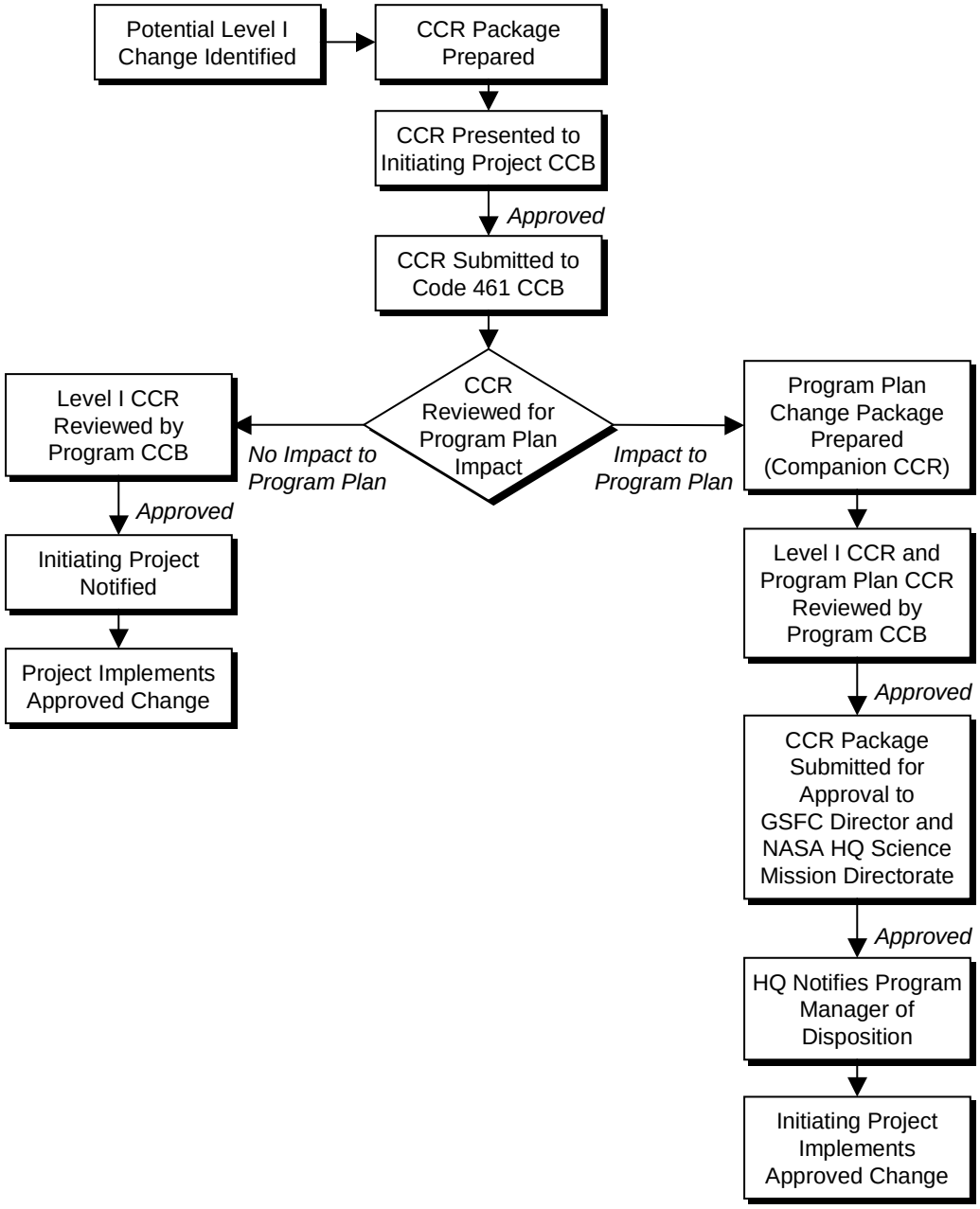

Figure 1-2
Typical Level I Change Process Flow

1.3.3 Level III CCBs: Contractors and Principal Investigators

A Level III CCB shall be responsible for all changes including, but not limited to, those affecting the internal interfaces, cost, schedule, and performance of their respective activities. These apply to contractors and Principal Investigators that fall outside the scope of the GSFC Quality Management System.

Each contractor shall assign responsibilities within their organization for the implementation of a formal CM system that satisfies the configuration control requirements of the contract. Contractor CM procedures and changes must be approved by the Program or Project office, as appropriate. Subcontractor CM procedures shall comply with approved contractor's CM requirements.

Each contractor shall identify a CMO within its organization. The CMO shall be responsible for maintaining the contractor's CM requirements and shall ensure the contractor's compliance in implementation of configuration identification, configuration change control, and configuration status accounting systems and procedures.

Each contractor shall have a CCB structured to provide an effective management tool for evaluating, approving, and maintaining configuration control of hardware and software changes. These boards provide a disciplined means for the review and evaluation of all proposed changes that affect engineering drawings, specifications, procedures, software development or other project baselines.

2.0 CONFIGURATION IDENTIFICATION

2.1 PROCESS DEFINITION

Configuration Identification refers to the process of identifying components to be managed as CIs and designating the technical documentation (including requirements, design, hardware and software, specifications, drawings, manuals, and operational procedures) for each baseline developed. Configuration identification involves allocating required capabilities to CIs, naming and numbering the items and developing or acquiring technical documentation to describe them.

2.2 IDENTIFICATION CRITERIA

As products are developed new CIs will be identified and included as appropriate into the organization's baseline. One or more of the following criteria should be applicable to be considered an appropriate selection as a CI:

a. Be critical to overall system performance, safety or security.
b. Have a specification or top-level assembly drawing.
c. Be maintainable and operable as a separate entity and therefore available to more than one location.
d. Be acquirable in the assembled condition as a subsystem or system-level spare.
e. Be capable of separate qualification and or acceptance testing.
f. Be an operational program used in direct real-time support of a mission or system objective.
g. Be an off-line program if one of the following conditions apply:
   - The status of the program affects product schedules.
   - Changes to the configuration of the program directly affect the configuration of other CIs.

- The development or maintenance of the program requires a large expenditure of resources.

h. Be a Commitment or Agreement.

The Program Manager or Project Manager, as appropriate, shall make final determination of which documents will be controlled.

2.3 PROGRAM OFFICE CONFIGURATION IDENTIFICATION

The STP CMO shall assign a document number to all STP program documents. The document number will consist of the organization code 461, CI category (refer to list below), a 4-digit number assigned sequentially, and (if applicable) a revision letter (issued sequentially). For example: 461-AGMT-0001A. This list is provided for guidance only and is subject to change by the Program Manager.

Category	Description	Criteria
AGMT	Agreements, MOUs, MOAs	Always
ANYS	Analysis type documents	By decision
CPR	Customer Payload Requirement Documents	Always
FORM	STP-Unique Forms	Always
FRAC	Fracture Control Implementation documents	By decision
HDBK	Handbooks	By decision
ICD	Interface Control Documents	Always
MGMT	Management Plans and Procedures	Always
OPS	Operations Requirements Documents, Operation Checklists and other Operations documents	By decision
PAR	Payload Accommodation Requirements	Always
PLAN	Plans	By decision
PROC	Procedures	By decision
QA	Performance Assurance documents relating to quality assurance, Implementation Plans for QA, Technical Documents for fabrication and materials, etc.	Always
SFTY	Safety related documents, Hazard Reports	Always
SOW	Statements of Work (for contracts)	By decision
SPEC	Specification-type documents	Always
TEV	Test and Evaluation (Incl. As Run Procedures), Verification of Hardware or Software	Always
TM	Technical Memos	By decision
TR	Test Reports	By decision

2.4 PROJECT OFFICE CONFIGURATION IDENTIFICATION

Configuration baselines shall be established and defined in controlled project documentation for each STP project, subject to project office approval. As applicable, these baselines will be comprised of hardware, software, firmware, and documentation CIs. Identification conventions shall be as described for the Program Office. Project Managers may also change or add categories to the above list to suit project requirements.

3.0 CONFIGURATION BASELINE

The baseline CIs (documents) shall be incorporated into a Controlled Documents List (CDL) that shall be maintained by the Program and/or Project CMO. The CDL shall contain, at a minimum, those items listed in Section 5.3. Proposed changes to the established baseline documents will be systematically reviewed and evaluated for technical, cost and schedule impact prior to approval or disapproval of the change request. Documents to be put under control and baselined to be included on the CDL shall be determined by the Program and/or Project Manager at his/her discretion. The Program and Project CDLs will be maintained in the NGIN CM Tool by the respective CMO.

3.1 DOCUMENT IDENTIFICATION AND NUMBERING

The cover sheet of all STP-generated controlled documents shall include, as a minimum, the document title, name and organizational code of Responsible Organization, an approval/effective date, expiration date (if required), and a permanent document number. Refer to Section 2.3 for a description for the document number. All new releases and revisions issued after the effective date of this document shall contain a footer on the first page to:

Check the STP Controlled Documents List at:
https:/stpngin.gsfc.nasa.gov
to verify that this is the correct version before use.

Projects shall have their own CDL and will have a similar message, modified as necessary for their controlled documents. The CMO shall assign all document numbers for the Program or Project(s).

3.2 RELEASE OF CONTROLLED DOCUMENTS

All STP-controlled documents shall be formally released with the issuance of an approved CCR. A controlled document shall be released through the formal change control procedure defined in Section 4 of this document. A CCB Directive shall be distributed with the new or revised document by the CM Office when released, with a reminder that obsolete/cancelled versions are not to be used.

3.3 EXTERNAL DOCUMENTS

All documents received from external sources for the STP Program Office shall be assigned a document number per Section 2.3. The STP CMO shall send a notice via e-mail that the document has been placed in the library for information purposes.

All Contract Data Requirements Lists (CDRLs) (deliverables) shall be delivered to the GSFC Contracting Officer Technical Representative (COTR). The COTR shall forward CDRL(s) to the project CMO. Each project CMO shall track the CDRL deliverables.

3.4 OBSOLETE DOCUMENTS

Documents that are canceled or become obsolete, because of CCB action or otherwise, will be indicated on the CDL. Cancelled and obsolete documents shall be marked as "OBSOLETE" and will be retained in the respective STP Program or Project library for historical purposes.

4.0 CONFIGURATION CONTROL PROCESSES

These procedures are applicable to the processing of all CCRs. Anyone can initiate a CCR, using the NGIN CM tool or by submitting a CCR form to the CM Office. See Section 4.2.

4.1 CONFIGURATION CONTROL BOARD

The Configuration Control Board (CCB) is a group of technical and administrative personnel responsible for establishing baselines of documents and the approval or disapproval of proposed changes, deviations or waivers. CCBs are established at different levels, as described in Section 1.3.

The CCB reviews new document releases and changes to ensure they are compatible in terms of technical performance, schedules and cost management implications. Each CCB shall be responsible for controlling baselines and changes to those baselines at their level. Changes that affect higher level requirements shall be submitted to the CMO responsible for coordinating the operations of the CCB affected.

4.1.1 CCB Responsibilities

The CCB shall be responsible for formally evaluating, dispositioning and documenting its actions for proposed new documents and changes. The CCB shall ensure that thorough consideration is given to the impact of each proposed change to all CIs and components in terms of form, fit, function, cost, schedule, and benefit.

The CCB will meet at the direction of the chairperson. The CCB will evaluate all CCRs submitted to the Board and present its recommendations to the CCB chairperson. All CCRs are approved, disapproved or withdrawn, and signed by the CCB Chairperson.

The Program CCB shall consider Program/inter-project issues. This responsibility includes the responsibility of reviewing proposed changes and evaluating their impact on future STP projects and their interfaces. The impact of changes on costs deferred to subsequent years will also be considered.

4.1.2 CCB Member Responsibilities

The following disciplines have major responsibilities for STP CM functions. These are mainly described for Program-level CCBs, but corresponding project positions have corresponding responsibilities for Project CCBs.

a. Program Manager—The Program Manager or designated person shall serve as the Chairperson of the
Program CCB and shall be responsible for:

1. Ensuring that all participating STP functional organizations and contractors comply with GSFC CM requirements.

2. Appointing permanent and ad-hoc members to the Program CCB.

3. Calling scheduled and unscheduled meetings of the Program CCB.

4. Evaluating the recommendations of the Program CCB, approving or disapproving all CCB recommendations within the scope of the Chairperson's authority and authorizing the establishment of baselines.

5. Obtaining proper authorization for technical, engineering or resources changes that are beyond his/her personal authority.

b. Project Manager—The Project Manager shall be responsible for all technical and engineering considerations regarding proposed changes to the CIs for their individual projects. The Project Manager shall represent the project at Program CCBs as needed, serve as CCB chair for project CCBs, and have project-level responsibility for items 1-5 above.

c. Program Business Manager/Deputy Program Business Manager—The Program Business Manager/Deputy Program Business Manager shall be responsible for reviewing all proposed changes and evaluating matters relating to Program resources, contract cost, and schedule impacts. The Program Business Manager/Deputy Program Business Manager shall be a standing member of the Program CCB for all cost-related CCRs.

d. Systems Assurance Manager—The Systems Assurance Manager shall ensure change implementation by hardware/software verification and ensure compliance with GSFC Quality/Safety Assurance requirements. The Systems Assurance Manager for the Program and/or each Project shall be a standing member of the Program and/or Project CCB.

e. Contracting Officer—The Contracting Officer shall be responsible for reviewing all proposed changes and evaluating impact to contracts and cost. He/she shall be responsible for ensuring incorporation of changes into the contract, if applicable, once the changes have been approved. The Contracting Officer shall be an ad hoc member of the Program and/or Project CCB.

f. Deputy Project Manager/Resources—The Deputy Project Manager/Resources shall be responsible for reviewing all proposed changes and evaluating cost and schedule impacts for their individual projects. He/she shall serve as chairperson of the CCB, when designated. The Deputy Project Manager/Resources shall be a standing member of each project CCB for cost-related CCRs.

g. CMO—The CMO shall be responsible for ensuring effective, controlled flow of data through the CCB. The CMO shall:

1. Serve as the recording secretary and non-voting standing member of the CCB.

2. Schedule CCB meetings with the concurrence of the CCB Chairperson, and provide proposed change review packages to CCB members.

3. Track CCB action items, prepare minutes, and distribute copies, as required.

h. Ad-Hoc Members — Ad-Hoc CCB members may consist of disciplines associated with mission operations, systems, instruments, spacecraft, science, and others. They will be selected based on relevance of their expertise on an as-required basis.

Membership lists of standing CCBs will be posted on the NGIN CM Tool and updated at the discretion of the Program Manager or designee.

4.2 CONFIGURATION CHANGE REQUESTS

All STP Program and Project office Class I and Class II changes shall be initiated by a CCR. Anyone may initiate a CCR and forward it directly to the CMO. The CCR form is a controlled document and is form number 461-FORM-0002. An initiator shall get the CCR form from the CMO or use the STP NGIN CM Tool.

STP NGIN access is available to all STP personnel. An Account Request form is available in the CM Office for access to STP NGIN and shall be approved by the Program Support Manager.

As a minimum, the CCR shall contain the following information:

a. CCR number – (Organization Code - sequential number)
a. Initiator name, organization code and e-mail address
b. Date Submitted
c. Title of document
d. Document Number
e. Complete technical description of the proposed change(s), including specific document.
f. Revision/Change (letter and/or number) of document to be changed
g. Complete rationale for change(s).
h. Specific documents and/or hardware, etc. that would be affected by the proposed change.

Revisions to CCRs already distributed by the CMO for review shall be identified by revision letters.

4.3 PROCESSING OF CHANGES

At least three business days prior to a scheduled CCB meeting, the CMO will issue a CCB agenda that lists CCRs to be discussed at the meeting. The CMO will issue special notices for urgent CCRs that must be acted upon within 5 business days, adding them to the CCB agenda for a previously scheduled meeting, or identifying additional CCB meetings as necessary. The CMO will work with the CCB Chairperson to deal with emergency CCRs that must be acted upon immediately. CCRs will generally be dealt with as follows:

- **Emergency**. The CCB Chairperson calls a special CCB meeting or consults with CCB members

and acts upon the CCR within 24 hours of receipt by the CMO.

- **Urgent**. The CCB convenes and acts upon the CCR within 1 week of receipt by the CMO.
- **Routine**. The CCB convenes and acts upon the CCR within 3 weeks of receipt by the CMO.

The CCB members shall review the CCR in a meeting or out of board, and recommend approval or disapproval of the change. The CCB Chairperson will make the final decision from the recommendations of the CCB members. CCB minutes shall be distributed (if a CCB meeting was held), and approved changes to CM-controlled documents shall be released and distributed. Disapproved CCRs shall be returned to the originator, and shall include reasons for disapproval and direction for further action, if required.

4.3.1 Configuration Control Board Directive (CCBD)

Evaluation and authority for implementation of Class I and II changes will be by direction of the Program and/or Project Manager or a designated person. No other individual or participants may direct the implementation of approved changes.

A CCBD 461-FORM-0001 may be used for a Letter of Direction or CCB Meeting Minutes. The Program and/or Project office shall use CCBDs to direct a person(s) or organization to complete actions assigned by the CCB. Where appropriate, CCBDs will include a schedule for verification of change implementation (see 4.3.3).

4.3.2 Contractual Implementation of Approved CCRs

Approved CCRs affecting contracts shall be provided to the Contracting Officer (CO). The CO shall proceed under the appropriate procurement procedure to achieve contractual implementation. The CMO shall ensure that the necessary documentation is prepared to show the effectivity of the change.

4.3.3 Verification of Change Implementation

Verification of change implementation shall be the responsibility of the CMO. This verification occurs after the responsible implementer has completed the change and notified the CMO, or based on the expected implementation schedule. Verification is necessary to ensure proper implementation of CCB decisions and to ensure no additional changes were made.

4.4 DOCUMENT CHANGES/REVISIONS

Changes to documents require proper identification. Changes shall be implemented by the proper use of Document Change Records and change pages, or by revision of the document.

4.4.1 Document Change Record Sheet

CM-controlled documents shall contain a Change History Log sheet that identifies changes within the document, in front of the document, right after the title page and prior to the signature page.

4.4.2 Change Pages

Change pages may be used to effect changes to controlled documents when the extent of change does not warrant document revision. Change pages shall be complete reprints of pages suitable for incorporation into documents by removal of old pages and incorporation of the new pages. Change pages shall contain the document identification number as assigned. However, the date listed below the identification number will be the date the CCB approved the change. A change bar may be placed in the right-hand margin adjacent to and encompassing all changed portions. Documents printed on two sides will bear the change bar, if used, on the margin opposite the bound side. Change bars, if used, will only be placed on change pages and not in newly issued revisions. The CCR number is placed on the outside of the change bar for change tracking purposes.

4.4.3 Document Revisions

A revision is a complete reissue of a document. Identification numbers for revised documents shall be the original identification number followed by a sequential revision letter. Each revised document shall include all changes that have previously been approved. No editorial or other changes will be made during revisions unless approved by the CCB.

5.0 CONFIGURATION STATUS ACCOUNTING

Configuration Status Accounting is the systematic release, recording, correlation and reporting of the information needed to effectively manage a configuration item. The CMO shall record, maintain and report the information needed for managing the configuration item effectively. This shall include a list of Program-controlled documents, a list of proposed configuration changes, the status of the proposed changes and associated action items.

The CMO shall generate and maintain CCR Status Reports, CCR Action Items Reports, and the STP Controlled Documents List as described below.

5.1 CCR Status Report and Logs

The CCR Status Report identifies each CCR that has been submitted to the CMO for processing through the CCB. It is used by the CM Office to track the status and final disposition of all CCRs and report that status to the Program or project office. Status reports shall contain information as follows:

a. CCR number and title
b. Date CCR initiated
c. CCR originator
d. Change Class
e. Related project
f. Documents affected

g. CCB date
h. CCR status
i. Actions assigned
j. Close out date of CCR
k. Verification of Implementation

The CCR Status Report shall be maintained continuously, and will be available on the NGIN CM System.

5.2 CCR Action Item Status Report

This report shall be used by the CMO to identify all actions necessary for processing a CCR through the required approval cycle and to identify and track all actions necessary for implementing a change. An up-to-date report shall be distributed with each issue of the CCB minutes. The CCR Action Item Status Report shall contain the following:

a. CCR number and title
b. Description of Action Item
c. Assigned To
d. Status of Action Item
e. Due Date for Completion

5.3 Controlled Documents List

The Controlled Documents List (CDL) shall be used in the CMO for the tracking of documents under configuration control by the STP Program Office. The CDL shall be maintained in the NGIN CM system. The CDL shall contain the following:

a. Document No.
b. Document Title
c. Revision
d. CCR No.
e. Effective Date
f. Responsible Organization
g. Expiration Date

6.0 CONFIGURATION MANAGEMENT AUDIT

The STP Program or Project office CMO shall be responsible for ensuring that the configuration management discipline in this procedure will be implemented throughout the STP Program and Projects in accordance with the standards and policies established by this procedure. Audits of CM activities within project organizations may be planned, conducted, and recorded, when considered, necessary, to ensure implementation of this procedure. Nonconformances shall be reported via the GSFC Nonconformance Reporting/Corrective Action System (NCR/CAS).

Projects shall perform configuration audits to verify hardware CIs, and will document the requirement in project CM plans and contracts. The objective is to verify that the actual configuration of hardware CIs conforms to the intended configuration (the "as-built" configuration matches the "as-designed" configuration).

6.1 AUDIT TEAM

Audits shall be scheduled and audit teams appointed by the Project Managers. The required membership of the audit team depends on the complexity of the equipment, the volume and type of documentation associated with the hardware, and the depth and detail of the documents to be audited. Supplier audits are documented in accordance with GPR 5100.4.

6.2 CMO RESPONSIBILITY

Project CMOs shall be responsible for conducting periodic configuration audits at the project and contractor levels. This audit process ensures that CM procedures are being adhered to and properly implemented. The CMO shall perform audits at project contractor facilities, as necessary, to ensure that contractor CM practices are sufficient and compatible with the requirements of this procedure.

Each project may conduct a CM system audit soon after the contract or agreement has been signed (prior to PDR) to ensure that the provider has a CM system in place which shall be in compliance with the project's CM requirements. The project may conduct additional audits as the project matures to determine that the provider system is functional and the "as-built" products are consistent with the "as-designed" documentation, and that the documentation and products incorporate approved changes.

CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Initial	April 23, 1999	Initial Release as document 410-PG-8700.2.2
A	February 16, 2000	Revised document number to 460-PG-8700.2.1A in accordance with GPG 1410.2 requirement
B	March 24, 2000	Complete rewrite to incorporate requirements of GPG 1410.2 and 400-PG-1410.2.1A. Changed document number from 460-PG-8700.2.1A to 460-PG-1410.2.1B.
C	January 21, 2005	Revised document to comply with Code 400 Rules Review. Changed document number from 460-PG-1410.2.1B to 461-PG-1410.2.1C