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Joint Polar Satellite System (JPSS) Common Data Format Control Book – External Volume VI - Ancillary Data, Auxiliary Data, Messages, and Reports

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Block 1.2.3

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JPSS Common Data Format Control Book – External Volume VI - Ancillary Data, Auxiliary Data, Messages, and Reports

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Preface

This document is under JPSS Ground ERB configuration control. Once this document is approved, JPSS approved changes are handled in accordance with Class I and Class II change control requirements as described in the JPSS Configuration Management Procedures, and changes to this document shall be made by complete revision.

Any questions should be addressed to:

JPSS Configuration Management Office
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Change History Log

Revision	Effective Date	Description of Changes (Reference the CCR & CCB/ERB Approval Date; for first Block Version Release, identify origin of document source)	Sections Affected
0123-	Aug 23, 2012	This version incorporates Rev D of 474-00001-06-B0122, dated July 12, 2012, to create the baseline for Block 1.2.3, Rev-. This was approved (out of board) by the JPSS Ground ERB via 474-CCR-12-0512 on the effective date shown.	All
0123-1	Oct 11, 2012	This version incorporates 474-CCR-12-0604 (ECR-CGS-0135). This was approved by the JPSS Ground ERB on the effective date shown.	Section 4.15 Table 4.15-1 Table 4.15-2 Example 4.15-1
0123-2	Nov 08, 2012	This version incorporates 474-CCR-12-0709 (ECR-CGS-0157).This was approved by the JPSS Ground ERB on the effective date shown.	Table 4.21-1 Example 4.21-1
0123A	Nov 30, 2012	This version incorporates 0123-1, 0123-2 and 474-CCR-12-0724. This was approved by the JPSS Ground ERB on the effective date shown.	All
0123A-1	Jan 24, 2013	This version incorporates 474-CCR-12-0785 (ECR-CGS-0168) which was approved by the JPSS Ground ERB on the effective date shown.	2.1.2.6 Appendix A
0123A-2	Mar 28, 2013	This version incorporates 474-CCR-13-0851 (ECR-CGS-0173) which was approved by the JPSS Ground ERB on the effective date shown.	Table 2.1.3.34-1
0123A-3	May 30, 2013	This version incorporates 474-CCR-13-0927 (ECR-CGS-0182) which was approved by the JPSS Ground ERB on the effective date shown.	Table 4.2-1 4.3 Table 4.26-1
0123A-4	May 31, 2013	This version updates NOGAPS to NAVGEM. There is an editorial replacement of NPOESS with JPSS. This version incorporates 474-CCR-13-1004 which was approved by the JPSS Ground ERB on the effective date shown.	1.1, 1.2, 1.3, 2.0, 2.1, 2.1.2, 2.1.2.3, 2.1.2.5, 2.1.2.6, 2.1.3, 2.1.3.14, 2.1.3, 2.1.3.14, 2.1.3.16-26, 28, 2.1.4, 2.2,

Revision	Effective Date	Description of Changes (Reference the CCR & CCB/ERB Approval Date; for first Block Version Release, identify origin of document source)	Sections Affected
			2.3, 2.4, 3.0, 3.1, 3.4-3.10, 3.12-3.14, 4.0, Table 4.2-1, 4.4-4.7, 4.11, 4.14, 4.15, Table 4.16-2, 4.17-4.19, 4.21, 4.22, 4.24, 4.25, Table 4.26-1, 4.27, Example A-20.2
0123A-5	Jun 13, 2013	This version incorporates 474-CCR-13-0997 (ECR-CGS-0185) which was approved by the JPSS Ground ERB on the effective date shown.	4.15 Table 4.15-1 Table 4.15-2
0123B	Jul 02, 2013	This version incorporates 0123A-1, 0123A-2, 0123A-3, 0123A-4 and 474-CCR-13-1100 (ECR-CGS-0189). This was approved by the JPSS Ground ERB on the effective date shown.	All
0123B-1	Sep 12, 2013	This version incorporates 474-CCR-13-1147 (ECR-CGS-0208) which was approved by the JPSS Ground ERB on the effective date shown.	2.1.4 Table 2.1.4-1 3.4 3.9 Table 3.9-1 3.10 Table 3.10-1 3.11 Table 3.11-1 Table 3.11-2 Table 3.11-3 3.14 Table 3.14-1 Table 4.16-1 Example 4.16-1
0123C	Nov 07, 2013	This version incorporates 0123B-1 and 474-CCR-13-0998. This was approved by the JPSS Ground ERB on the effective date shown.	All

Table of TBDs/TBRs

Item No.	Location	Summary	Individual/ Organization	Due Date
EDFCB6-TBD-10559	Section 4.22	Spacecraft Configuration Database Update		

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Volume VI – Ancillary Data, Auxiliary Data, Messages, and Reports

Document Date: 05/21/2010 **Document Number: 474-00001-06**
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Revision	Document Date	Revision/Change Description	Pages Affected
---	01/28/2005	Incorporation of D34862-06 CDFCB-X Vol VI ECR 299A – Initial Release	All
A	05/19/2006	Incorporation of the following ECRs: • D31400-23 Key Management System OPSCON ECR 188F – Rev A, S/C Public Keys • D37032 ISF ICD ECR 214D - Data Mapping • D31400-10 SARSAT System OPSCON SYS-020-060 ECR 229B – Rev A, Predicted Post-Maneuver TLE • D35836 NPOESS Glossary ECR 287B - Glossary Updates • ECR 290C (Data Mapping), • ECR 359B (Data Availability and Latency Reports), • ECR 422E Ancillary Data Architecture Implementation - Official Dynamic Ancillary Data • D34862-01 CDFCB-X Vol I ECR 445B – Rev A, File-naming Conventions and References • D34651 Field Terminal ICD ECR 469C – Rev A, Data Mapping • D41068 IDPS to NSIPS ICD ECR 479A – Initial Release, Data Mapping • D34862-06 CDFCB-X Vol VI ECR 472A – Consolidated ICD Data Package, Rev A This revision also incorporates updates to all of the sections in this document.	All

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B	05/11/07	Incorporation of the following ECRs: • ECR 494C Consolidated Data Delivery Reports – CDDR DCO B1 D34863-06 CDFCB-X Volume VI • ECR 504A Reports and Messages Change Notice DCO B2 D34862-06 CDFCB-X Volume VI ECR • 505A - Adds the CDDR and updates the existing DDR format • ECR 515B NPOESS Restructure Baseline – Demanifested and GFE Sensor Performance • ECR 532 - DCO B3 D34862-06 CDFCB-X Volume VI – UML updates • ECR 552B DCO B4 D34862-06 CDFCB-X Vol. VI – C3S SAT updates • ECR 574A DCO B5 D34862-06 CDFCB-X Vol. VI – ODAD updates • UML supersedes ECR 476, Initial Release of the NPOESS CDFCB-X Volume V This revision also incorporates the following format definition updates: Global Forecast System, (GFS) Navy Operational Global Atmospheric Prediction System (NOGAPS) Navy Aerosol Analysis and Prediction System (NAAPS) Near-real-time Ice and Snow Extent product Deletion of Earth Orientation Finals2000	All

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C	09/10/2007	Incorporation of ECR 615A and the following Changes: • Reconciled Ancillary data with Program baseline (merged data sets and deleted data sets)Updated examples, excessively long examples have been truncated and an indication of 'Snipped' has been added to the text • End of Contact Report Updated • New C3S Orbital Operations Ancillary section • Various updates to descriptions to add clarity • Updated links in QA Truth Data • DDR and CDDR Formats Updated • LUT Section Update • Spacecraft Public Key Certificates removed based on recent Key Management Scenario Update • UML supersedes ECR 549C, IDPS Build 1.5 Metadata Updates - CDFCB-X Vol. 5	All
D	04/08/2008	ECR 736 Incorporates the following DCOs: • DCO D1 ECR 650A, IDPS Terrain Database • DCO D2 ECR 685A, C3S Updates • DCO D3 ECR 686A, DDR and CDDR Updates • DCO D4 ECR 689A, Release Packages and Manifest File Update • DCO D5 ECR 695A, Factor Memory Loads • DCO D6 ECR 699A, DQM Ad Hoc Reports • DCO D7 ECR 704, Metadata Updates • DCO D8 ECR 712A, N_Algorithm_Version metadata	All

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E	07/02/2008	ECR 782A incorporates the following DCOs and ECRs: • DCO E1 ECR 739B, Mission Notices and Data Delivery Checksum • DCO E2 ECR 748, DQM, DQTT and Static Ancillary Formats • ECR 726B, CERES on NPP • ECR 749, Distributor Metadata This revision also incorporates the following format definition updates: • Added Sections 4.28 CERES LEO&A APID Telemetry Files and Section 4.29 CERES Solar Ephemeris Data • Descriptive text updates • Ancillary and Auxiliary UML Diagram Updates • Release Packages Manifest (format, schema, example) • Example Updates • Mission Notice File Size Update • CDDR Format Update (requestID) • Added MSD Support files: Section 2.1.4 Geographically Constrained ODAD and Section 3.9 Constellation TLE • Factory Memory Load Updates • New Appendix B	All

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F	01/30/2009	ECR 900A incorporates the following DCOs and ECRs: • DCO F1 ECR 844A CERES Updates (Sections 4.28, 4.29) • DCO F2 ECR 852C System Latency Updates and Segment Latency as NPP Only (Sections 4.18, 4.19) • DCO F3 ECR 863C Mission Notice file-naming and delivery to CLASS • ECRs 865E (CIS ICD) and 905A (C3S to IDPS ICD) This revision also incorporates the following changes: • Added Revolution Number Format • Added MSD Formats • Various updates to QA Truth • Updated DQTTs, and Appendix C, DQTT Identifiers • Updated Checksum Section number and data mnemonic • Miscellaneous editorial updates including numbering of Auxiliary Data Sections after 3.9 • DDR and CDDR- Updated UTC Time format to include white space; updated checksum data type • DQM Reports - file-naming construct and additional text for image files • Clarification of Mission Notice formats • Added num_files to Release Package Delivery Manifest • Updated Examples • Updated Appendix B	All

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G	05/21/2009	ECR 961B incorporates the following changes: • Leap Seconds and Earth Orientation Finals2000A descriptive text updates o Includes updates based on ECR A-118C • QA Truth URL updates • Adds Normalized Ozone Profile Climatology • Revolution Number deliverable as HDF5 from IDPS • Adds OMPS versioning to Factory Memory Load • Corrects DQTT Filename Destination Field • Corrects STA SDS and Ad-hoc File-naming conventions • Adds UTC time to STA Report Request Form • Adds KeyNumber to HRD/LRD Monitoring Report • System and Segment Latency Report description updates • STA production frequency updates • Geographically Constrained ODAD updates • Globally Relevant Data updates • Appendix B	7, 70 82-88 76, 77 98 107 115 187 199 200 227 228 237 352 243 244 249 191–210 292 142-144 145-149 436-459
H	12/09/2009	ECR 1016A incorporates the following changes: • Updated definition of revolution table numbering starting point per C3S comment • Updated Origin identifier for Mission Notices to be ‘c3s-‘ in order to be compliant with the CDFCB-X Volume I 4-character update that occurred following the Rev G update of this volume • Corrected constraint on Priority packet size to be within 7 (rather than 15) bytes of mod 880 • DQQT Formats - Clarified the ‘min’ and ‘max’ are ‘In Range’, i.e. ‘in range’ is inclusive. • Added effectivity column to Table 3.1-1, Auxiliary Data files Delivered as HDF5 by IDPS • Incorporates ECR 1012A for data mapping update - Updated Appendix B, DATA MNEMONIC TO INTERFACE MAPPING to reference D34862-01, CDFCB-X Volume I for the mapping. This was done based on user feedback on use of the mappings as well as to eliminate duplication and precedence issues across the various volumes of the CDFCB-X	All

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		• Updated File Sizes per IDPS inputs for
		  o Surface Pressure (TUG87) Climatology Files
		  o Surface Reflectivity Files
		  o Temperature at Surface Climatology Files
		  o TOMS V8 Temperature Climatology
		  o Normalized Ozone Profile Climatology
		• Updated Earth Orientation Finals2000A date at request of C3S; also added file name.
		• Modified Table 3.3 1, Factory Memory Loads Format to add 1 new field and to clarify choice for memBlock at request of C3S
		• Modified Table 3.10-1, GCO Packet Format to add 1 byte of status bits at request of IDPS
		• Added descriptive text for FOUO Mission Notices
		• Added DQTT Severity Levels
		• Replaced MODIS Terra with MODIS Aqua for Cloud Mask and Sea Surface Temperature Truth Data in response to CCR comments
		• Updated Truth Data Introductory text with inputs from IDPS
		• Added new Section 3.14 for Application Packet Files sent from C3S and FTS/SPE environments to the IDPS Ingest environment.
		• Added a few minor clarifications and additions in response to C3S comments; no changes to baseline.
		• Updated CERES APID Telemetry files section with addition of Table describing field contents and range of values for the secondary header.
		• Updated status in Data Delivery Report and Consolidated Data Delivery Report to indicate that there will be one entry per file (regardless of number of failures), and that the number of tries is configurable.
		• Clarified static ancillary data effectivity as States 2 and 3 for NPP/NPOESS
		• Added different file naming convention in States 2/3 for the KSAT Ground contact Schedule.
		• Updated GCO format to clarify which fields are compressed and where the fill data is added
		• Updated TLE format to include pointer to documentation of NPOESS SCIDs.	

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J	05/21/2010	ECR 1067C incorporates the following updates:
		• Incorporation of ECR 1047, DCO J1, DQM Truth Data Updates
		• Incorporation of ECR 1049, DCO J2, System Latency Report Update
		• Update Section 2.1.2.2, Earth Orientation Finals 2000A – added clarification that though this is an ODAD file, it is not a candidate for Substitute Data processing
		  o Also updated Section 2.2, Substitute Ancillary Data and added Table 2.2-1, Substitutable Dynamic Ancillary Data to support this clarification
		• Update Section 2.1.3.14, IDPS Terrain Database – incorporation of ECR A-265, Terr-Eco Database format update
		• Updated Section 4.2, Data Delivery Report – added URID to format definition (Work Request 7484)
		• Also updated Example A-5.0, Data Delivery Report Examples
		• Added State clarification for NPP and NPOESS to the Mission Notice format, Section 4.15
		• Updated Table 4.17-1, System Data Availability Report Format Range of Values for Report Period to show that the value is a range (typo) – also done in Table 4.19-1, Segment Latency Report Format
		• Updated Sections 4.18, System Latency Report and Section 4.19, Segment Latency Report to have the same reporting frequency (daily, monthly, and annually) (Work Request 7402)
		• Added NPOESS Field Terminal (NFTS) SiteID to Table 4.18-2, System Latency Report for States 2 and 3
		• Updated Section 4.26, Consolidated Data Delivery Report – added URID to format definition (Work Request 7484)
		  o Also updated Example A-18.0, Consolidated Data Delivery Report Examples
		• Section 4.28, CERES APID Telemetry Files, Updated to follow NPP expectations for NPOESS era
		• Section 4.29, CERES Solar Ephemeris Data, Updated effectivity to follow NPP expectations for NPOESS era
		• Updated Table C-1, DQTT Quality Flag Mapping based on IDPS/DQM review and IPAC/Bubble verification activities
			pp. 82-93
			pp. 250-255
			pp. 7, 87, 88
			pp. 41-43
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			pp. 448-455

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		• Section 3.2, Processing Coefficient Tables – updated file-naming construct to reflect that 'Version Number Field provides Provenance Version Identifier' as per IDPS	p. 109
		• Section 2.1.3, Official Static Ancillary Data – updated file-naming construct to reflect that 'Version Number Field provides Provenance Version Identifier' as per IDPS	pp. 22-82
		• Added GPS Almanac format definition in support of State 2/3 for Orbital Operations Ancillary data needs as per NPOESS CIS ICD and C3S	p. 103
		• Added orientation information to NCEP and NOGAPS format information	
		• Deleted Orbital Operations Vector Product Format as per C3S as it is no longer used or needed	p. 8, 15
		• Updated Section 4.17, System Data Availability Report, Section 4.18, System Latency Report, and Section 4.19, Segment Latency Report - Updated Description to indicate accounting for periods can span up to a year and updated frequency to be Daily report produced daily, all other production on an as requested basis. Also corrected comment in Report Period to reflect	p. 106 pp. 249, 250, 254, 255, 258, 260, 261
		• Removed NFTS from Table 4.18-2, System Latency Report for States 2 and 3 from the SiteID as there is no C3S connected to a Field Terminal	
		• Updated comments and example in Table 4.17-1, System Data Availability Report Format, Table 4.18-1, System Latency Report for State 1, Table 4.18-2, System Latency Report for States 2 and 3, and Table 4.19-1, Segment Latency Report Format to reflect fact that the date field does not contain leading zeroes	p. 258 pp. 250, 255, 258, 261
		• Removed excessive screen shot examples from Appendix A due to size and obselence of capture	pp. 346-348, 351, 358-359, 372-374

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1.0 INTRODUCTION

1.1 Document Purpose and Scope

Volume VI of the Common Data Format Control Book - External (CDFCB-X) contains the specifications for the format of ancillary data, auxiliary data, message, and report formats. These formats are for the data that is available to authorized external users of the Joint Polar-orbiting Satellite System (JPSS). For an overview of the CDFCB-X and the list of reference documents, see the JPSS CDFCB-X Vol. I, 474-00001-01.

1.2 Document Overview

For ease of reading, understanding, and use of this document, the sections of this volume are organized in the following manner:

Section 1.0: Introduction – Provides a brief overview of the document's purpose, scope, and an explanation of the data formats used in this volume.

Section 2.0: Ancillary Data Formats – Provides descriptions of the data formats for Official Ancillary Data (both static and dynamic), Substitute Ancillary Data and Data Quality Monitoring (DQM) Truth Data.

Section 3.0: Auxiliary Data Formats – Provides descriptions of the data formats for JPSS deliverable Auxiliary Data.

Section 4.0: Reports and Messages Data Formats – Provides the data format of the reports provided by the Interface Data Processing Segment (IDPS) and the Command, Control and Communications Segment (C3S) for authorized external users. The reports are grouped by the originating segment.

Appendix A: Example Data Files – Provides examples of Extensible Markup Language (XML) data files. The reports are grouped by the originating segment.

Appendix B: Data Mnemonic to Interface Mapping - A mapping of data mnemonics to their corresponding logical interface mnemonics.

1.3 Ancillary, Report, and Messages Data Formats Template Overview

Ancillary, Report, and Messages Data Formats are files that contain data in various

format types, such as Gridded Binary (GRIB), American Standard Code for Information Interchange (ASCII), XML, or continuous data streams. The template used for report formats and ancillary data in this document is described below.

Data Mnemonic: This is a unique identifier. The method for defining data mnemonics is defined in the JPSS CDFCB-X Vol. I, 474-00001-01.

Description/Purpose: A brief description of the data format and its purpose.

File-Naming Construct: A description of the file-naming constructs for those data units that apply. See the JPSS CDFCB-X Vol. I, 474-00001-01, for file-naming conventions.

File Size: The size of the data file, or if delivered by JPSS in Hierarchical Data Format Release 5 (HDF5) format the size of the data within the file.

File Format Type: The format type of the data file.

Production Frequency: Production Frequency is the interval of time for data generation. A production frequency equal to dynamic implies that it is only as requested or required.

Data Format/Structure: This defines the actual data format. The definitions provide information for every data element in the data unit.

In the following described formats:

- The field names are all mandatory, unless specified otherwise.
- Fill data is specified, where applicable.
- Strings are left-aligned and integers are right-aligned, unless specified otherwise.
- For information regarding Coordinated Universal Time (UTC) and IDPS Epoch Time (IET) time conventions, see the JPSS CDFCB-X Vol. I, 474-00001-01.
- For information regarding the Consultative Committee for Space Data Systems (CCSDS) time format, refer to CCSDS Time Code Formats Blue Book, CCSDS 301.0-B-3, available at http://www.ccsds.org.
- For all references of the ASCII Standard, the corresponding International Standards Organization (ISO) standard is ISO/IEC 10646. The specific Unicode is UTF8, unless stated otherwise.

Where applicable, the fields are presented in order (either top – down or most significant first), unless stated otherwise.

The Length (bytes) column is for XML and Hypertext Markup Language (HTML) formatted files. The data type controls the length of each data field in the document. For example, dateTime data types have a fixed length, integers have specific valid values defined by the XML schema, and strings are unlimited length character strings. The length of each field does not take

into account the space used in the file for XML- and HTML-formatted characters, so the "byte length" column does not provide any useful information on the valid lengths of the fields or on the total size of the file.

2.0 ANCILLARY DATA FORMATS

Ancillary data is defined as any data which is not produced by JPSS, but is acquired from external providers and used by JPSS in the production of JPSS data products. For a complete definition of ancillary data file-naming conventions, see the JPSS CDFCB-X Vol. I, 474-00001-01. For the official listing of ancillary data used by JPSS see the Common Interfaces and Services Interface Control Document, 474-00002 (CIS ICD).

2.1 Official Ancillary Data

Official ancillary data is defined as the designated ancillary data that is used to produce the official set of JPSS data products that is delivered to the Comprehensive Large Array-data Stewardship System (CLASS). The JPSS product set created using the official ancillary data set is required to meet or exceed the performance requirements stated in the JPSS System Specification, SY15-0007. Ancillary data is categorized as either static or dynamic.

2.1.1 Official Dynamic Ancillary Data HDF5 Files

The Official Dynamic Ancillary Data (ODAD) files are delivered as HDF5 files via IDPS. Externally provided ODAD files are encapsulated in HDF5 such that after extraction the original file is regenerated. The following information describes the HDF5 file's format via a Unified Modeling Language (UML) diagram. The UML diagram indicates the attributes, groups, and datasets used in the HDF5 file to describe the Ancillary Data file.

Figure 2.1.1-1, Generalized UML Diagram for HDF5 ODAD Files, depicts the HDF5 ODAD organization as a UML class diagram. Each HDF5 ODAD file contains an HDF5 Root Group, '/', an Ancillary Dataset, and an All Data Group (the actual data). For the definition and organization of the metadata attributes listed in the UML and contained in the HDF5 files, see the JPSS CDFCB-X Vol. V, 474-00001-05.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

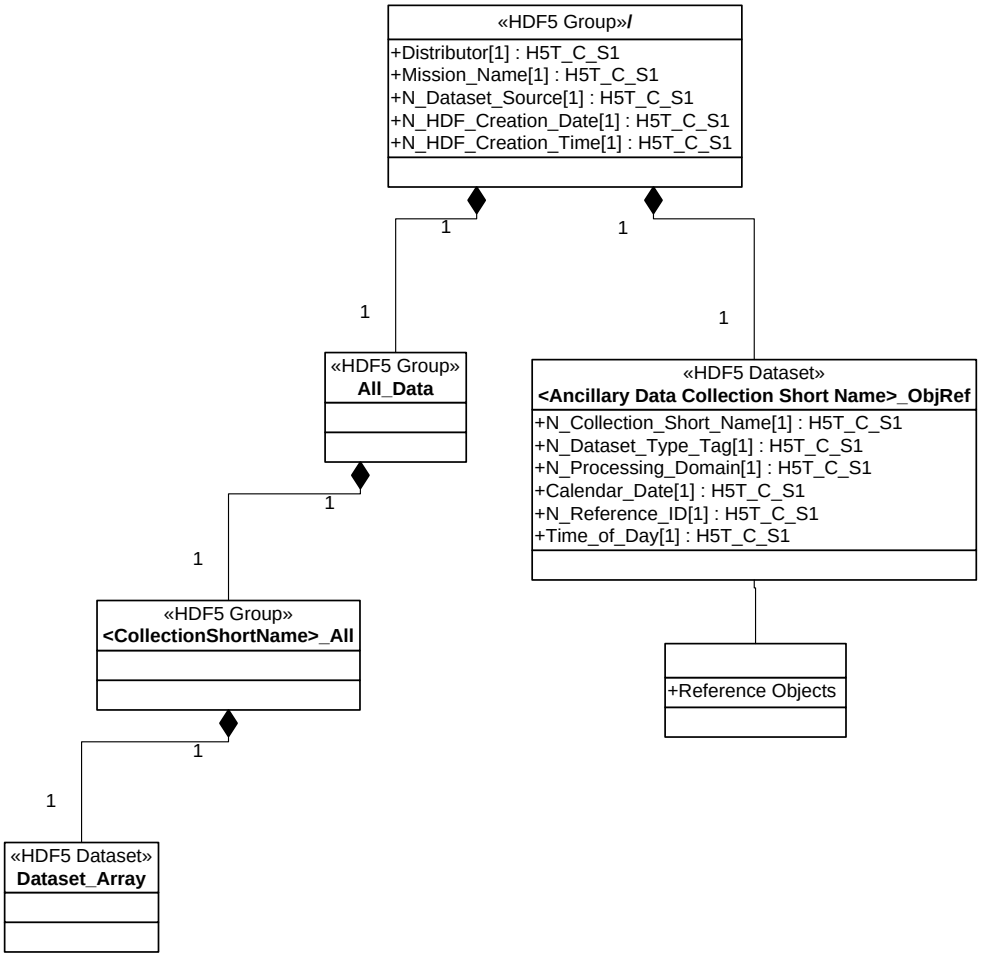

Figure 2.1.1-1**, Generalized UML Diagram for HDF5 ODAD Files**

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

2.1.2 Official Dynamic Ancillary Data

Dynamic ancillary data is defined as data that is introduced into JPSS periodically, and is updated as often as every six hours.

There are three sources for ODAD:

National Centers for Environmental Prediction (NCEP)

Fleet Numerical Meteorology and Oceanography Center (FNMOC)

U.S. Naval Observatory (USNO)

While data from the USNO is acquired directly from the USNO ftp site, for NCEP and FNMOC the National Weather Service (NWS) Telecommunication Operations Center (TOC) will serve as the single distribution point for the two center's products.

The data parameters distributed by NCEP and FNMOC are in GRIB2 format, a World Meteorological Organization (WMO) accepted standard, and can be described in terms of the standard GRIB2 identifiers. For details on GRIB2 encoding, refer to WMO Publication 306, Manual on Codes, FM92 GRIB Edition 2 Version 2 of 5 Nov 2003, available at http://www.wmo.ch/web/www/DPS/grib-2.html.

2.1.2.1 DELETED

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

2.1.2.2 Earth Orientation Finals 2000A

Data Mnemonic	AN_NP-L10330-003
Description/ Purpose	The IERS Finals 2000A data within the finals2000A.all file provides an Earth Orientation (a.k.a. Polar wander) with all EOP values since 02 January 1973 with dX & dY nutation series (with 1 year of predictions). The nutation series in dX and dY uses the International Astronomical Union (IAU) 2000A Nutation Theory. This information is used for geolocation. Note: Earth Orientation IERS Finals 2000A data is not a candidate for use in Substitute data processing since it is used in the SDR processing level.
File-Naming Construct	IDPS: See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. C3S: Files are named by provider.
File Size	~2 MiB
File Format Type	ASCII
Production Frequency	Weekly
Data Content and Data Format	Data format/content is defined in the following files available at: http://maia.usno.navy.mil/ser7/ readme.finals2000A – Content description An overview of the IERS Earth Orientation products can be found at: http://maia.usno.navy.mil/

2.1.2.3 National Centers for Environmental Prediction Global Forecast System

NCEP runs numerical models that provide a global forecast for a wide variety of geophysical parameters that are used by JPSS algorithms to produce Environmental Data Records (EDRs). The official list of the parameters and how they are used in processing can be found in the Environmental Data Records Interdependency Report (EDR/IR), 474-00007. The numerical models are run at six-hour intervals and start with a snapshot of recent conditions at a time called the synoptic or analysis time. The models then produce multiple forecasts corresponding with different times in the future (e.g., three hours and six hours from the analysis time).

JPSS uses the Global Forecast System (GFS) output data sets produced by NCEP. GFS is produced for multiple forecast times in 3-hour intervals. NCEP bundles together all JPSS requested parameters to create a single NCEP GFS product per forecast time. The format for the GFS data set is described in Table 2.1.2.3-1, NCEP GFS Format.

The range of data values vary widely in Table 2.1.2.3-1, NCEP GFS Format, and should be considered approximate. The Product Definition Section (PDS) Octets describe the values of the GRIB2 message PDS octets 10 and 11, which are associated with the Field Names listed. Also listed is the EDR/IR Identification Number (ID) which cross references the field to that document's Table 10-1, Ancillary Data IDs List.

Data Mnemonic	AN_NP-L10000-030 (3-hour forecast) AN_NP-L10000-060 (6-hour forecast) AN_NP-L10000-090 (9-hour forecast) AN_NP-L10000-120 (12-hour forecast) AN_NP-L10000-150 (15-hour forecast) AN_NP-L10000-180 (18-hour forecast) AN_NP-L10000-210 (21-hour forecast) AN_NP-L10000-240 (24-hour forecast)
Description/ Purpose	The NCEP GFS Product consists of 3 to 24 hour forecasts for 0Z, 6Z, 12Z, and 18Z synoptic times. Each model run time and forecast time is a separate file which contains all the parameters listed in Table 2.1.2.3-1, NCEP GFS Format. The NCEP GFS data is used in numerous EDR algorithms. The horizontal resolution of this product is 0.5 degrees.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details.
File Size	Approximately 82 MiB each
File Format Type	GRIB2 (using JPEG2000 compression)
Production Frequency	6 hours
Data Content and Data Format	See Table 2.1.2.3-1, NCEP GFS Format. The NCEP GFS Grid is a 259920-point (720x361) global equal angle longitude-latitude grid. Position (1,1) is located at (0E, 90N) increasing Easterly and Southerly

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Table 2.1.2.3-1, NCEP GFS Format

Field Name	Data Type	Range	Units	PDS Octets		EDR/IR ID
				10	11	
Geopotential Height at 1000 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 975 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 950 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 925 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 900 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 850 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 800 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 750 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 700 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 650 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 600 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 550 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 500 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 450 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 400 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 350 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 300 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 250 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 200 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 150 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 100 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 70 mb	float32	10 – 33000	gpm	3	5	X27.1

Field Name	Data Type	Range	Units	PDS Octets		EDR/IR ID
				10	11	
Geopotential Height at 50 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 30 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 20 mb	float32	10 – 33000	gpm	3	5	X27.1
Geopotential Height at 10 mb	float32	10 – 33000	gpm	3	5	X27.1
Temperature at 1000 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 975 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 950 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 925 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 900 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 850 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 800 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 750 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 700 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 650 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 600 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 550 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 500 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 450 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 400 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 350 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 300 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 250 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 200 mb	float32	150 – 320	K	0	0	X38.1

Field Name	Data Type	Range	Units	PDS Octets		EDR/IR ID
				10	11	
Temperature at 150 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 100 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 70 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 50 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 30 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 20 mb	float32	150 – 320	K	0	0	X38.1
Temperature at 10 mb	float32	150 – 320	K	0	0	X38.1
Specific Humidity at 1000 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 975 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 950 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 925 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 900 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 850 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 800 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 750 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 700 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 650 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 600 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 550 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 500 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 450 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 400 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 350 mb	float32	0 - 0.04	kg/kg	1	1	X28.1

Field Name	Data Type	Range	Units	PDS Octets		EDR/IR ID
				10	11	
Specific Humidity at 300 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 250 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 200 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 150 mb	float32	0 - 0.04	kg/kg	1	1	X28.1
Specific Humidity at 100 mb	float32	0 – 0.04	kg/kg	1	1	X28.1
Pressure Reduced to MSL	float32	88000-108000	Pa	3	1	X30.1
u Component of Surface Wind at 10m	float32	0 – 120	m/s	2	2	X15.1
v Component of Surface Wind at 10m	float32	0 – 120	m/s	2	3	X15.1
Surface Pressure	float32	30000 – 108000	Pa	3	0	X10.1
Land/Water Temperature	float32	180 – 350	K	0	0	X46.1
Air Temperature at 2m	float32	183 – 328	K	0	0	X19.1
Total Precipitable Water	float32	0 – 130	kg/m2	1	3	X22.1
Geopotential Height at 0m	float32	-400 – 8850	gpm	3	5	X33.1
Specific Humidity at 2m	float32	0.002 - 0.040	kg/kg	1	0	X23.1
Tropopause Geopotential Height	float32	5000-20000	gpm	3	5	X36.1
Total Ozone	float32	80 – 650	DU	14	0	X7.1

2.1.2.4 DELETED

2.1.2.5 Navy Global Environmental Model Files

FNMOC runs numerical models that provide a global forecast for a wide variety of geophysical parameters that are used by JPSS algorithms to produce EDRs. The numerical models are run at six-hour intervals and start with a snapshot of recent conditions at a time called the synoptic or analysis time. The models then produce multiple forecasts corresponding with different times in the future (e.g., 3 hours and 6 hours from the analysis time).

JPSS uses the Navy Global Environmental Model (NAVGEM) output data sets produced by FNMOC. NAVGEM is produced for multiple forecast times in 3-hour intervals. FNMOC bundles together all JPSS requested parameters to create a single NAVGEM product per forecast time. The format for the NAVGEM data set is described in Table 2.1.2.5-1, NAVGEM Product Format.

The range of data values vary widely in Table 2.1.2.5-1, NAVGEM Product Format, and should be considered approximate. The PDS Octets describe the values of the GRIB2 message PDS octets 10 and 11, which are associated with the Field Names listed. Also listed is the EDR/IR Identification Number (ID) which cross-references the field to that document's Table 10-1, Ancillary Data IDs List.

Data Mnemonic	AN_NP-L20000-030 (3-hour forecast) AN_NP-L20000-060 (6-hour forecast) AN_NP-L20000-090 (9-hour forecast) AN_NP-L20000-120 (12-hour forecast) AN_NP-L20000-150 (15-hour forecast) AN_NP-L20000-180 (18-hour forecast) AN_NP-L20000-210 (21-hour forecast) AN_NP-L20000-240 (24-hour forecast)
Description/ Purpose	The FNMOC NAVGEM Product consists of 3 to 24 hour forecasts for 0Z, 6Z, 12Z, and 18Z synoptic times. Each model run time and forecast time is a separate file which contains all the parameters listed in Table 2.1.2.5-1, NAVGEM Product Format. The NAVGEM data can be used in numerous EDR algorithms. The horizontal resolution of this product is 0.5 degrees.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

File Size	Approximately 12 MiB
File Format Type	GRIB2 (using JPEG2000 compression)
Production Frequency	6 hours
Data Content and Data Format	See Table 2.1.2.5-1, NAVGEM Product Format, for details. For JPSS the NAVGEM Grid duplicates the geometry of the NCEP GFS Grid, it is a 259920-point (720x361) global equal angle longitude-latitude grid. Position (1, 1) is located at (0E, 90N) increasing Easterly and Southerly. Note: The NAVGEM products delivered to JPSS thus have different grid geometry from the NAVGEM products available to other users directly from FNMOC. The generally available NAVGEM Grid is a 259920-point (720x361) global equal angle longitude-latitude grid, with Latitude -90.000000 to 90.000000 by 0.500000 and Longitude 0.000000 to -0.500000 by 0.500000. Therefore, for the standard NAVGEM Grid position (1, 1) is located at (0E, 90S) increasing Easterly and Northerly.

Table 2.1.2.5-1, NAVGEM Product Format

Field Name	Data Type	Data Range	Units	PDS Octets		EDR/IR ID
				10	11	
Geopotential Height at 1000 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 975 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 950 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 925 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 900 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 850 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 800 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 750 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 700 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 650 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 600 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 550 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 500 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 450 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 400 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 350 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 300 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 250 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 200 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 150 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 100 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 70 mb	float32	10 – 33000	gpm	3	5	X27.2

Field Name	Data Type	Data Range	Units	PDS Octets		EDR/IR ID
				10	11	
Geopotential Height at 50 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 30 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 20 mb	float32	10 – 33000	gpm	3	5	X27.2
Geopotential Height at 10 mb	float32	10 – 33000	gpm	3	5	X27.2
Temperature at 1000 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 975 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 950 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 925 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 900 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 850 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 800 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 750 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 700 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 650 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 600 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 550 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 500 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 450 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 400 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 350 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 300 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 250 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 200 mb	float32	150 – 320	K	0	0	X38.2

Field Name	Data Type	Data Range	Units	PDS Octets		EDR/IR ID
				10	11	
Temperature at 150 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 100 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 70 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 50 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 30 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 20 mb	float32	150 – 320	K	0	0	X38.2
Temperature at 10 mb	float32	150 – 320	K	0	0	X38.2
Specific Humidity at 1000 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 975 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 950 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 925 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 900 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 850 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 800 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 750 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 700 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 650 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 600 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 550 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 500 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 450 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 400 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 350 mb	float32	0 – 0.04	kg/kg	1	1	X28.2

Field Name	Data Type	Data Range	Units	PDS Octets		EDR/IR ID
				10	11	
Specific Humidity at 300 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 250 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 200 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 150 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Specific Humidity at 100 mb	float32	0 – 0.04	kg/kg	1	1	X28.2
Pressure Reduced to MSL	float32	88000 – 108000	Pa	3	1	X30.2
u Component of Surface Wind at 10m	float32	0 – 120	m/s	2	2	X15.2
v Component of Surface Wind at 10m	float32	0 – 120	m/s	2	3	X15.2
Surface Pressure	float32	30000 – 108000	Pa	3	0	X10.2
Land/Water Temperature	float32	180 – 350	K	0	0	X46.2
Air Temperature at 2m	float32	183 – 328	K	0	0	X19.2
Total Precipitable Water	float32	0 – 130	kg/m^2	1	3	X22.2
Geopotential Height at 0m	float32	-400 – 8850	gpm	3	5	X33.2
Specific Humidity at 2m	float32	0.002 – 0.040	kg/kg	1	0	X23.2
Tropopause Geopotential Height	float32	5000 – 20000	gpm	3	5	X36.2
Total Ozone	float32	80 – 650	DU	14	0	X7.2

2.1.2.6 Navy Aerosol Analysis and Prediction System

Data Mnemonic	AN_NP-L10015-030 (3-hour forecast) AN_NP-L10015-060 (6-hour forecast) AN_NP-L10015-090 (9-hour forecast) AN_NP-L10015-120 (12-hour forecast) AN_NP-L10015-150 (15-hour forecast) AN_NP-L10015-180 (18-hour forecast) AN_NP-L10015-210 (21-hour forecast) AN_NP-L10015-240 (24-hour forecast)
Description/ Purpose	The Navy Aerosol Analysis and Prediction System (NAAPS) Product consists of 3 to 24 hour forecasts for 0Z, 6Z, 12Z, and 18Z synoptic times. Each model run time and forecast time is a separate file which contains all the parameters listed in Table 2.1.2.6-1, NAAPS Product Format. The horizontal resolution of this product is 0.5 degrees. The Naval Research Laboratory in Monterey, CA, developed this global model which predicts in near-real-time the distribution of tropospheric aerosols. This model uses meteorological fields produced from NAVGEM. This product is used in the production of VIIRS EDRs.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details.
File Size	~425 KiB each
File Format Type	GRIB2
Production Frequency	Every 6 hours at 0Z, 6Z, 12Z, and 18Z.
Data Content and Data Format	See Table 2.1.2.6-1, NAAPS Product Format, for details. For JPSS the NAAPS Grid duplicates the geometry of the NCEP GFS Grid, it is a 259920-point (720x361) global equal angle longitude-latitude grid. Position (1, 1) is located at (0E, 90N) increasing Easterly and Southerly.

Table 2.1.2.6-1, NAAPS Product Format

Field Name	Data Type	Data Range	Units	PDS Octets		EDR/IR ID
				10	11	
Total Column Aerosol Optical Thickness (AOT) at 550 nm	Float32	0 – 3	unitless	13	192	X39.1

2.1.3 Official Static Ancillary Data

Static Ancillary Data is defined as ancillary data that is infrequently updated and is introduced into JPSS by a process similar to the distribution of software updates. Static ancillary data goes through a Configuration Management (CM) process prior to its installation into the system. For files unaltered by JPSS, rather than duplicating the format information here, a link is provided to the data source controlling entity. Binary format types are stored as big endian.

2.1.3.1 Aerosol Optical Thickness Climatology Files

Data Mnemonic	AN_NP-L10010-001
Description/ Purpose	AOT Climatology is based on the Goddard Institute for Space Studies Global Aerosol Climatology Project (GACP) data set.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	9652 bytes
File Format Type	Binary Institute of Electrical & Electronics Engineers (IEEE) 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.1-1, AOT Climatology Format, for details.

Table 2.1.3.1-1, AOT Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
wavelengths	42	32-bit floating point	412 - 3750	nm	13 elements
lonbound	120	32-bit floating point	-pi to pi	radians	15 x 2 elements
latbound	120	32-bit floating point	-pi/2 to pi/2	radians	15 x 2 elements
mtau	9360	32-bit floating point	0 to 1	unitless	15 climateModels x 12 months x 13 bands

2.1.3.2 DELETED

2.1.3.3 NASA Code 916 Cloud Top Pressure Files

Data Mnemonic	AN_NP-L10020-001
Description/ Purpose	This data set was developed by the National Aeronautics and Space Administration (NASA) code 916, based on OMI cloud pressure data from OMCLDRR version 1.6.0 (Collection 3), reduced for years 2004-2007 to 1x1 degree. It is used to process the Ozone Mapping and Profiler Suite (OMPS) data.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	2.97 MiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	The file format shown is applicable for all 12 files. See Table 2.1.3.3-1, NASA Code 916 Cloud Top Pressure Format, for details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 2.1.3.3-1, NASA Code 916 Cloud Top Pressure Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
CLDPRES	3110400	32-bit floating point	0 – 1000 (Nominal values should range from 100 to 900)	mbar	Single binary file with dimensions of 12 x 180 x 360, 12 months, 180 latitudes and 360 longitudes - 1 degree resolution. –99.99 indicates a missing value.

2.1.3.4 DELETED

2.1.3.5 DELETED

2.1.3.6 DELETED

2.1.3.7 DELETED

2.1.3.8 Nitrate Depletion Temperature Files

Data Mnemonic	AN_NP-L10120-001
Description/ Purpose	The Nitrate Depletion Temperature (NDT) database was produced using an algorithm based on the approach presented by Kamykowski [Kamykowski, D., a preliminary biophysical model of the relationship between temperature and plant nutrients in the upper ocean, *Deep Sea Res., Part A*, 34, 1067–1079, 1987]. This data is used in the production of the VIIRS Ocean Color EDR.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	8.207 MiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.8-1, NDT Format, for details.

Table 2.1.3.8-1, NDT Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Temperature Difference Array	8388608	32-bit floating point	269 – 302	K	Data is stored as a cylindrical equidistant array of 1024 x 2048. The format of the file is 2048 values spanning the longitude 0 to 360 E and 1024 values spanning the latitude from 90 N to 90 S. The value at (1, 1) corresponds to the cell next to the North pole on the Greenwich meridian.

2.1.3.9 Ozone Profile: Fortuin and Kelder Climatology, 1998 Files

Data Mnemonic	AN_NP-L10135-001
Description/ Purpose	The Stratospheric Processes And Their Role in Climate (SPARC) reference climatology project generated this ozone climatology, which is based on data from Fortuin and Kelder. This data is representative of the period 1980-1991. OMPS uses this data set.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	12,441,600 Bytes
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.9-1, Ozone Profile Climatology Format

Table 2.1.3.9-1, Ozone Profile Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Ozone	12441600	32-bit floating point	0 – 150	ppm	Data is stored as a 12 x 4 x 180 x 360 array. (month x umkuhr x latitude x longitude) 2nd Dimension of 4 is Umkuhr layers which are: 1) 1013 to 253 hPa, 2) 253 to 127 hPa 3) 127 to 63.3 hPa 4) 63.3 to 31.3 mb. Grid is 1 degree (180 x 360) with upper left at 90N, 180W

2.1.3.10 DELETED

2.1.3.11 DELETED

2.1.3.12 Surface Pressure (TUG87) Climatology Files

Data Mnemonic	AN_NP-L20210-002
Description/ Purpose	This Surface Pressure Climatology data set is based on the global terrain model TUG87 and was developed by M. Weiser at the Technical Institute of Graz in Austria. It is delivered in the OMPS Nadir Sensor Data Records (SDR) software and is used in the CrIS, VIIRS AOT, VIIRS Atmospheric Correction over Oceans, VIIRS Cloud Tops, VIIRS Sea Ice, and VIIRS Surface Reflectance.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier.
File Size	1012.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.12-1, Surface Pressure Climatology Format, for details.

Table 2.1.3.12-1, Surface Pressure Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Surface Pressure	1036800	32-bit floating point	475.376 to 1013.25	mbar	Single binary file with dimensions of 360 x 720. Grid is 1/2 degree (360 latitudes x 720 longitudes) with first point (upper left) at 90N, 180W.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

2.1.3.13 Surface Reflectivity Files

Data Mnemonic	AN_NP-L10220-001
Description/ Purpose	This Surface Reflectivity data set is based on data developed by J.R. Herman and E. Celarier. Information can be found in "Earth Surface Reflectivity Climatology at 340 nm to 380 nm from Total Ozone Mapping Spectrometer (TOMS) Data," published in 1997 in Volume 102 of the Journal for Geophysical Research. This data set is used to process OMPS nadir total column and limb profile data.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier.
File Size	2.97 MiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.13-1, Surface Reflectivity Format, for details.

Table 2.1.3.13-1, Surface Reflectivity Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Reflectivity	3110400	32-bit floating point	0.01 to 9.99 (9.99 is fill value, nominal values no higher than 1.00)	Fraction	Single binary file with dimensions of 12 x 180 x 360, representing resolution of one-degree longitude by one-degree latitude by 12 months.

2.1.3.14 IDPS Terrain Database

Data Mnemonic	AN_NP-L10100-003
Description/ Purpose	The IDPS Terrain Database is used to efficiently store several static ancillary data types. The external sources for these data include: • Shuttle Radar Topography Mission 30 Plus (SRTM30 Plus) (Depth of ocean/Bathymetry) data from University of California, San Diego. • Terrain height from NASA SRTM30 version 2. • Ellipsoid-Geoid separation from National Imagery and Mapping Agency (NIMA) EGM96 model. The data that are stored in the Terrain Database includes: 1. Mean Sea Level (MSL) Earth Surface height based on Shuttle Radar Topography Mission 30 Plus (SRTM30 Plus) data set. 2. Maximum MSL surface height, within 28 kilometers of each point. 3. Minimum MSL height within 28 kilometers of each point. 4. Bathymetric depth based on the SRTM30 plus 5. Geopotential Height of the Earth's surface as calculated from the MSL height and latitude 6. Ellipsoid - Geoid Separation height based on the NIMA EGM96 model. 7. Initial JPSS Quarterly Surface Type provided by NGAS (Note: the QST data in this database isn't the IDPS operational source). All elevations are in meters referenced to the WGS84/EGM96 geoid as documented at http://www.NGA.mil/GandG/. Elevations can range from -32767 to 32767. These data also contain ocassional voids from a number of causes such as shadowing, phase unwrapping anomalies, or other radar-specific causes. Voids have been filled in using linear interpolation. These data are used for general geolocation computations.
File-Naming Construct	See the File-Naming Convention for the IDPS Terrain Database, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	A single tile file size is approximately 33 MB.
File Format Type	Binary
Production Frequency	Static

Data Content and Data Format	See Table 2.1.3.14-1, IDPS Terrain Database Format, for details. Figure 2.1.3.14-1, The Northern Hemisphere Terrain Database, and Figure 2.1.3.14-2, The Southern Hemisphere Terrain Database, show the database maps and how tiles are laid on the maps. Each tile consists of 1664 rows and columns. There are 32 tiles in each row, and 32 rows of tiles. The tiles in the corners of the database are never created. So there are 48 tiles missing from each corner, but the tiles of the database are numbered as if those tiles existed. This makes the tile number easier to calculate. The grid in the upper left corner of tile 528 is exactly on the pole. This is achieved by establishing the grid with 53,249 rows and columns, instead of 53,248. The last row and column of the grid are outside all tiles and are never used anyway. Each tile is individually initialized. Points that are more than 2 kilometers outside the Equator are initialized with a flag value so that they are never used.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 2.1.3.14-1, IDPS Terrain Database Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
mslhgt Array	5537792 [1664 x 1664]	short	-500 to 9400	meters	Surface height (NASA SRTM 30 v2 between 60N and 60S; USGS GTOPO30 otherwise)
maxhgt Array	5537792 [1664 x 1664]	short	-500 to 9400	meters	Maximum terrain height within radius of 28 KM MH_RADIUS kilometers
minhgt Array	5537792 [1664 x 1664]	short	-500 to 9400	meters	Minimum terrain height within radius of 28 KM MH_RADIUS kilometers
bathy Array	5537792 [1664 x 1664]	short	1 to -12000	meters	Ocean depth from SRTM30+
sfcgp	5537792 [1664 x 1664]	short	-500 to 9400	meters	Surface Geopotential Height
egSep Array	2768896 [1664x 1664]	char	-126 to 78	meters	NIMA EGM 96 Geoid Ellipsoid separation
sfcType Array	2768896 [1664x 1664]	uInt8	0 to 20	unitless	Initial Quarterly Surface Type (QST) indicator Not used in operations
upIET_mslhgt	8	uint64	Varies	IET microseconds	Time SRTM30 height updated
upIET_mmhgt	8	uint64	Varies	IET microseconds	Time max/min height updated
upIET_bathy	8	uint64	Varies	IET microseconds	Time bathymetric depth of water updated
upIET_sfcgp	8	uint64	Varies	IET microseconds	Time surface geopotential height updated
upIET_egs	8	uint64	Varies	IET microseconds	Time EG separation height updated
upIET_qst	8	uint64	Varies	IET microseconds	Time QST-Land Water Mask (LWM) data updated Not used in operations
upIET_resolv	8	uint64	Varies	IET microseconds	Conflict resolution time
updated_IET	8	uint64	Varies	IET microseconds	Store time
boxfile Array	32	char	Varies	unitless	Box File Name
boxnum	4	int	11 to 1012	unitless	Box Number
boxrow	4	int	0 to 32	unitless	Database (DB) Box Row

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
boxcol	4	int	0 to 32	unitless	DB Box Column
ulrow_offset	4	int	Varies	unitless	DB grid row of the upper left corner
ulcol_offset	4	int	Varies	unitless	DB grid column of the upper left corner
num_nofill	4	int	0 to 1536	unitless	number of points well outside Equator never filled by data
nOrS	1	char	N or S	unitless	North/South Hemisphere
pad Array	7	char	N/A	unitless	pad

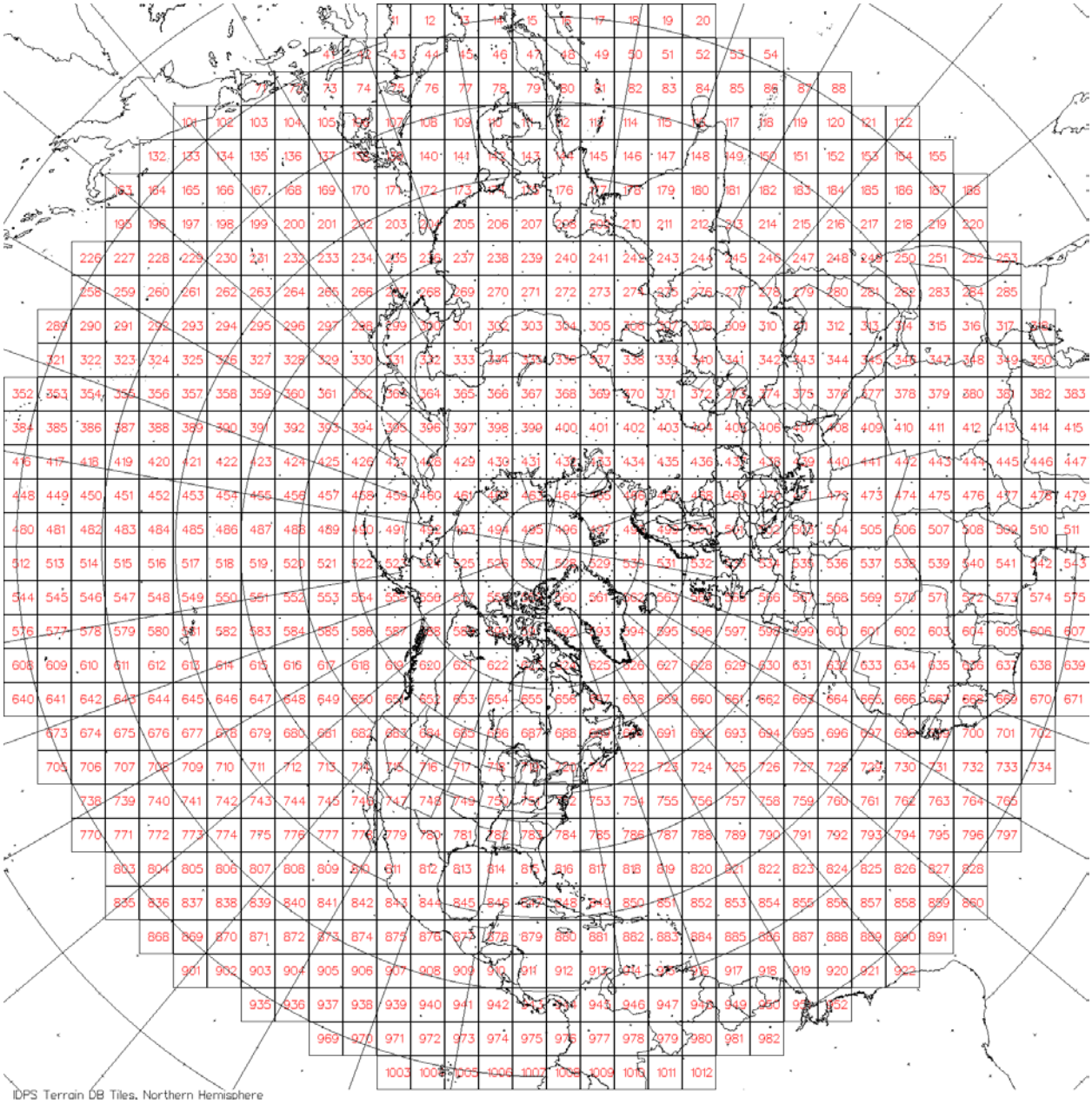

Figure 2.1.3.14-1: The Northern Hemisphere Terrain DB

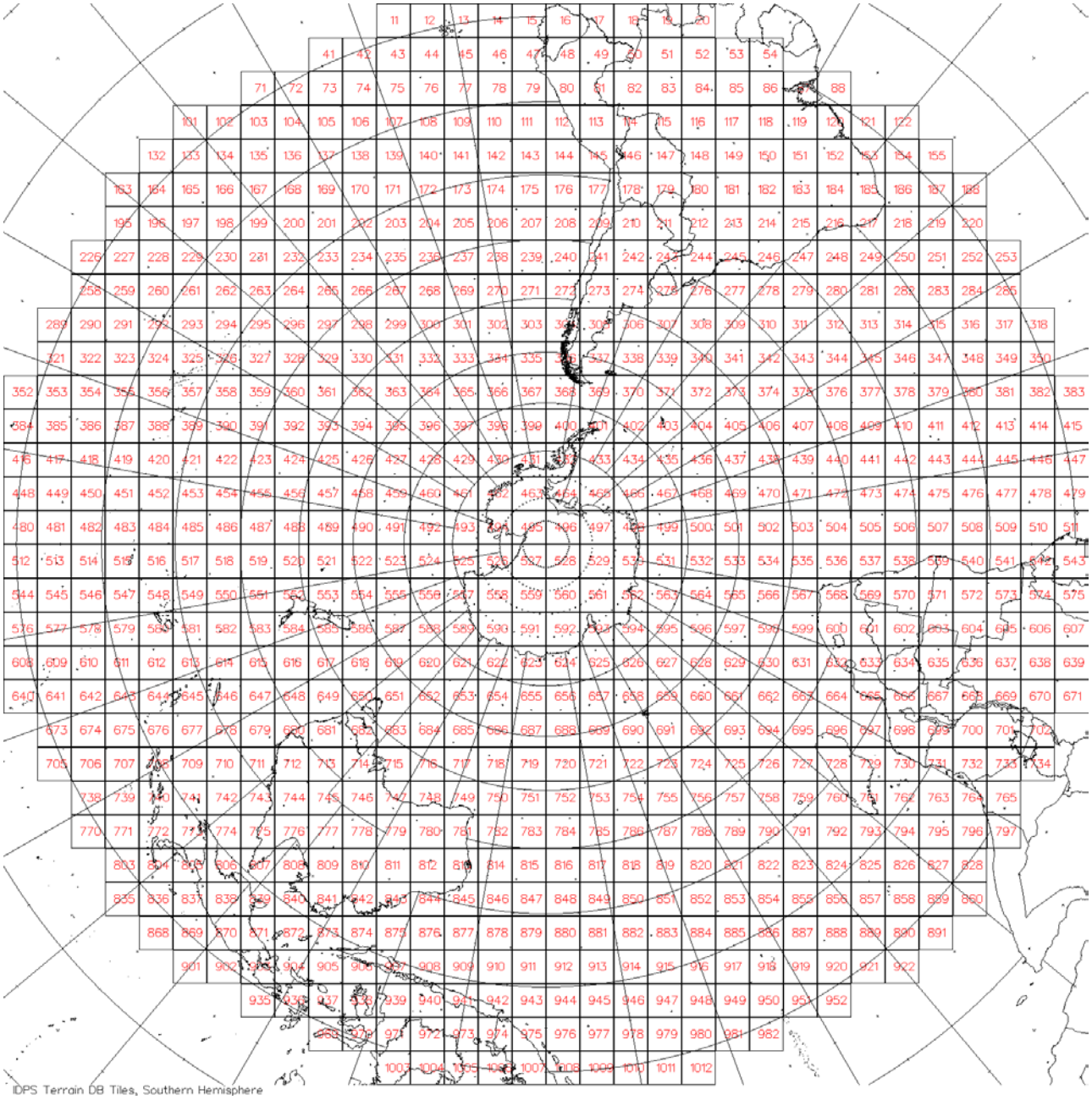

Figure 2.1.3.14-2: The Southern Hemisphere Terrain DB

2.1.3.15 DELETED

2.1.3.16 Isobaric Level Temperature Climatology Files

Data Mnemonic	AN_NP-L20310-002
Description/ Purpose	NCEP/National Center for Atmospheric Research (NCAR) Reanalysis Project Climate Data Assimilation System -1 (CDAS-1) global, monthly temperature profile on 26 pressure levels from the intrinsic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for graceful degradation when ODAD is not available. (NPP and JPSS during States 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier.
File Size	78975 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.16-1, Isobaric Level Temperature Climatology Format, for details.

Table 2.1.3.16-1, Isobaric Level Temperature Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Temperature	80,870,400	32-bit floating point	150 – 320	K	Dimensions of array represent month x pressure level x latitude x longitude: [12, 26, 180, 360]. The pressure levels match the NCEP GFS levels specified in Table 2.1.2.3-1. Starting grid point is January, 1000 hPa, 90N, 0E.

2.1.3.17 Tropopause Geopotential Height Climatology Files

Data Mnemonic	AN_NP-L20320-002
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly geopotential heights at the tropopause from the intrinsic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier.
File Size	3037.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.17-1, Tropopause Geopotential Height Climatology Format, for details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 2.1.3.17-1, Tropopause Geopotential Height Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
GeopotentialHeight	3,110,400	32-bit floating point	5000 – 20000	gpm	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.

2.1.3.18 Ozone Climatology Files

Data Mnemonic	AN_NP-L20130-003
Description/ Purpose	Fortuin and Kelder's monthly ozone total column climatology. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier.
File Size	3037.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.18-1, Ozone Climatology Format, for details.

Table 2.1.3.18-1, Ozone Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Ozone	3,110,400	32-bit floating point	50 – 650	DU	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.

2.1.3.19 Surface Wind Climatology Files

Data Mnemonic	AN_NP-L20250-002
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly geopotential heights at the tropopause from the diagnostic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for algorithm graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier.
File Size	6075 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.19-1, Surface Wind Climatology Format, for details.

Table 2.1.3.19-1, Surface Wind Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
u-component	3,110,400	32-bit floating point	0 – 120	m/s	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.
v-component	3,110,400	32-bit floating point	0 – 120	m/s	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.

2.1.3.20 Temperature at Surface Climatology Files

Data Mnemonic	AN_NP-L20230-002
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly Temperatures at the Surface (2m air) (including maximum and minimum) from the diagnostic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for algorithm graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier.
File Size	9112.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.20-1, Temperature at Surface Climatology Format, for details.

Table 2.1.3.20-1, Temperature at Surface Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Temperature	3,110,400	32-bit floating point	183 – 328	K	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.
MinTemperature	3,110,400	32-bit floating point	183 – 328	K	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.
MaxTemperature	3,110,400	32-bit floating point	183 – 328	K	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.

2.1.3.21 Surface (Skin) Temperature Climatology Files

Data Mnemonic	AN_NP-L20230-003
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly Temperatures at the Surface (Skin or Land/Water) from the diagnostic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for algorithm graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	3037.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.21-1, Surface (Skin) Temperature Climatology Format.

Table 2.1.3.21-1, Surface (Skin) Temperature Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Temperature	3,110,400	32-bit floating point	180 – 350	K	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.

2.1.3.22 Surface Pressure Climatology Files

Data Mnemonic	AN_NP-L20210-003
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly Surface Pressure from the intrinsic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for algorithm graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	3037.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.22-1, Surface Pressure Climatology Format, for details.

Table 2.1.3.22-1, Surface Pressure Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Pressure	3,110,400	32-bit floating point	30000 – 108000	hPa	Dimensions of array represent month x latitude x longitude: [12, 180, 360].Starting grid point is January, 90N, 0E.

2.1.3.23 Precipitable Water Climatology Files

Data Mnemonic	AN_NP-L20290-002
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly Precipitable Water from the intrinsic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for algorithm graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	3037.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.23-1, Precipitable Water Climatology Format, for details.

Table 2.1.3.23-1, Precipitable Water Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
PrecipitableWater	3,110,400	32-bit floating point	0 – 130	kg/m^2	Dimensions of array represent month x latitude x longitude: [12, 180, 360].Starting grid point is January, 90N, 0E.

2.1.3.24 Specific Humidity at Surface Climatology Files

Data Mnemonic	AN_NP-L20200-002
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly Specific Humidity at Surface from the diagnostic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for algorithm graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	3037.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.24-1, Specific Humidity at Surface Climatology Format, for details.

Table 2.1.3.24-1, Specific Humidity at Surface Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
SpecificHumidity	3,110,400	32-bit floating point	0.002 – 0.04	kg/kg	Dimensions of array represent month x latitude x longitude: [12, 180, 360].Starting grid point is January, 90N, 0E.

2.1.3.25 Geopotential Height at Pressure Levels Climatology Files

Data Mnemonic	AN_NP-L20090-002
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly geopotential height profile on 26 pressure levels from the intrinsic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	78975 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.25-1, Geopotential Height at Pressure Levels Climatology Format, for details.

Table 2.1.3.25-1, Geopotential Height at Pressure Levels Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
GeopotentialHeight	80,870,400	32-bit floating point	10 – 33000	gpm	Dimensions of array represent month x pressure level x latitude x longitude: [12, 26, 180, 360]. The pressure levels match the NCEP GFS levels specified in Table 2.1.2.3-1. Starting grid point is January, 1000 hPa, 90N, 0E.

2.1.3.26 Specific Humidity at Pressure Levels Climatology Files

Data Mnemonic	AN_NP-L20110-002
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS-1 global, monthly specific humidity profile on 21 pressure levels from the intrinsic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for graceful degradation when ODAD is not available. (NPP and JPSS during Blocks 2 and 3)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	63787.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.26-1, Specific Humidity at Pressure Levels Climatology Format, for details.

Table 2.1.3.26-1, Specific Humidity at Pressure Levels Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
SpecificHumidity	65,318,400	32-bit floating point	0.0 – 0.04	kg/kg	Dimensions of array represent month x pressure level x latitude x longitude: [12, 21, 180, 360]. The pressure levels match the NCEP GFS levels specified for Specific Humidity in Table 2.1.2.3-1. Starting grid point is January, 1000 hPa, 90N, 0E.

2.1.3.27 DELETED

2.1.3.28 Geopotential Height of Surface Climatology Files

Data Mnemonic	AN_NP-L10080-002
Description/ Purpose	NCEP/NCAR Reanalysis Project CDAS global, monthly geopotential heights at the surface from the intrinsic grid. The data used by IDPS is interpolated to a standard 1 degree by 1 degree grid. Used for graceful degradation when ODAD is not available. (Blocks 2 and 3/JPSS and NPP)
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	3037.5 KiB
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.28-1, Geopotential Height of Surface Climatology Format, for details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 2.1.3.28-1, Geopotential Height of Surface Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
GeopotentialHeight	3,110,400	32-bit floating point	5000 – 20000	gpm	Dimensions of array represent month x latitude x longitude: [12, 180, 360]. Starting grid point is January, 90N, 0E.

2.1.3.29 DELETED

2.1.3.30 DELETED

2.1.3.31 DELETED

2.1.3.32 Leap Seconds

Data Mnemonic	AN_NP-L10330-001
Description/ Purpose	Data file is used to convert IET to UTC and UTC to IET
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	1863 bytes (not fixed) (80 character lines)
File Format Type	ASCII
Production Frequency	Notice is given in Bulletin C every 6 months. This bulletin can be viewed at http://hpiers.obspm.fr/eoppc/bul/bulc/bulletinc.dat
Data Content and Data Format	See Table 2.1.3.32-1, Leap Seconds Format, for details

Table 2.1.3.32-1, Leap Seconds Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Date	13	String	> 1972	N/A	Calendar Date “ YYYY MMM DD”
Text	4	String	“=JD”	N/A	
Julian Day	9	Float	> 2441317.5	Days	
Text	10	ASCII	“ TAI-UTC=”	N/A	
LeapSeconds	13	Float	> 10.0	Seconds	
Text	4	ASCII	“S + “	N/A	
Correction	26	ASCII	0.0	Seconds	Correction term to maintain format legacy
Text	1	ASCII	“S”	N/A	

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

2.1.3.33 Planetary Ephemeris

Data Mnemonic	AN_NP-L10340-001
Description/ Purpose	JPSS Internal binary format of the Planetary ephemeris (DE200) from Jet Propulsion Laboratory (JPL). Used by IDPS to determine solar and lunar vectors during JPSS Mission Data processing. This internal format has been modified slightly from the DE200 format to accommodate use within JPSS without modifying the content or general layout of the source DE200 data. The layout, content, and description of the JPL DE200 Planetary Ephemeris can be found at the following URL: http://ssd.jpl.nasa.gov/?planet_eph_export.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	3698 KiB per 50 year block. (UNXP2000.200)
File Format Type	UNIX Binary
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.33-1, Planetary Ephemeris Format, for details.

Table 2.1.3.33-1, Planetary Ephemeris Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
tjdStart	8	64-bit float	Varies	Julian Day	Terrestrial Dynamic Time of start of ephemeris, expressed as a Julian Day (DE200 Group 1070, 1st value of first coefficients sub-group)
tjdEnd	8	64-bit float	Varies	Julian Day	Terrestrial Dynamic Time of end of ephemeris, expressed as a Julian Day (DE200 Group 1070, 2nd value of last coefficients sub-group)
span	8	64-bit float	Varies	Days	Span of ephemeris (i.e., number of days of ephemeris data in coeffs array)
au	8	64-bit float	Constant	km	Constant: size, in kilometers, of 1 Astronomical Unit (AU) (DE200 Group 1041, 7th value--third row, 1st number)
emrat	8	64-bit float	Constant	unitless	Constant: ratio of mass of Earth to mass of Moon (DE200 Group 1041, 8th value--third row, 2nd number)
ipt Array	156	32-bit int	Varies	unitless	Index array (13 x 3) indicating location of orbital parameters in coefficients table which correspond to each of 11 Solar System objects, plus nutation tables. Earth-Moon system is addressed through indices [2,1], [2,2], and [2,3]. The 13th item would be indices for libration tables, but DE200 does not include those, so these index slots are zeros. (DE200 Group 1050)
pad Array	4	byte	Varies	n/a	4 byte pad to adjust “coeffs” array to 8-byte longword boundary

coeffs Array	3039680	64-bit float	Varies	unitless	Data array is 460 x 826. Contains ephemeris timestamps, position and velocity tables for all 11 Solar System objects, and nutation tables. 460 DE200 data subblocks of 826 entries each. (DE200 Group 1070)

2.1.3.34 TOMS V8 Temperature Climatology

Data Mnemonic	AN_NP-L20230-004
Description/ Purpose	TOMS V8 Temperature Climatology on 11 Umkehr layers. Used for OMPS Total Column EDR generation.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	9504 Bytes
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.34-1, TOMS V8 Temperature Climatology Format, for details.

Table 2.1.3.34-1, TOMS V8 Temperature Climatology

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Temperature	9,504	32-bit floating point	185 – 290	K	Dimensions of array represent month x umkehrLayer x latitude zone x longitude zone: [12, 11, 18, 1]. Starting grid point is January, Bottom of the atmosphere, 90N.

2.1.3.35 Normalized Ozone Profile Climatology

Data Mnemonic	AN_NP-L10135-002
Description/ Purpose	This climatology ozone profile data is a combination of the UARS (Upper Atmosphere Research Satellite) Reference Atmosphere ozone profile data, the ECMWF (European Center for Medium range Weather Forecasting) ozone profile data, and the CIRA-86 (COSPAR International Reference Atmosphere: 1986, 0 km to 120 km) temperature and height profile data. The combined monthly mean ozone profiles cover each month of the year over 41 latitudinal zones from -80° to 80°. Each profile provides the normalized ozone mass mixing ratio (i.e., kg/kg DU^{-1}) at 38 pressure levels spanning from 1000 mbar to 0.1 mbar. The ozone profiles have been normalized by the computed total column amount. The data is used in the Net Heat Flux algorithm.
File-Naming Construct	See the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Version Number Field provides Provenance Version Identifier
File Size	74936 Bytes
File Format Type	Binary IEEE 754
Production Frequency	Static
Data Content and Data Format	See Table 2.1.3.35-1, Normalized Ozone Profile Climatology Format, for details.

Table 2.1.3.35-1, Normalized Ozone Profile Climatology Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
PressureLevels	152	32-bit floating point	0.1 – 1000.0	hPa	38 levels on which the ozone profile is provided.
NormalizedOzone	74784	32-bit floating point	1.0E-10 – 3.0E-8	(kg/kg) DU^{-1}	Dimensions of array represent month x latitude x pressure level [12, 41, 38] starting January at 80S; pressure levels as provided above for indices 0 – 37. Latitude range is -80 to 80.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

2.1.4 Deleted

2.2 Substitute Ancillary Data

A Central may have specific needs in terms of parameter qualities and decide to substitute certain Official Dynamic Ancillary Data with a data set of their own choosing. The ancillary data set used in this situation is called Substitute Ancillary Data and is used in place of the Official Dynamic Ancillary Data to produce JPSS Preparatory Project (NPP)/JPSS Data Products. Substitute Ancillary Data is provided by a Central to its local IDP for operations use. Substitute Ancillary Data may be comprised of one, several, or the complete set of data records which make up the Ancillary Data file required by operations.

Substitute NPP/JPSS Data Products are produced from the Substitute Ancillary Data sets, and differ from the baseline NPP/JPSS Data Products which are produced using the Official Ancillary Data set. IDPS uses the same algorithms to generate Substitute NPP/JPSS Data Products as the algorithms used to generate NPP/JPSS Official Data Products. Because of this, all Substitute Ancillary Data needs to be in the identical file format (including units) currently accepted[1] by IDPS to be compatible with the baseline algorithms.

Substitute Ancillary Data should be renamed by the respective Central to conform to the Ancillary Data File-Naming Convention, as annotated in JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4.

Table 2.2-1, Substitutable Dynamic Ancillary Data, lists the Dynamic Ancillary data files which may be substituted into the IDPS processing environment.

[1] Currently accepted data is in reference to the relevant Official Dynamic Ancillary Data sets.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 2.2-1, Substitutable Dynamic Ancillary Data

Product	**Data Mnemonic**
NCEP Forecast files	AN_NP_L10000-030 AN_NP_L10000-060 AN_NP_L10000-090 AN_NP_L10000-120 AN_NP_L10000-150 AN_NP_L10000-180 AN_NP_L10000-210 AN_NP_L10000-240
FNMOC Forecast files	AN_NP-L20000-030 AN_NP-L20000-060 AN_NP-L20000-090 AN_NP-L20000-120 AN_NP-L20000-150 AN_NP-L20000-180 AN_NP-L20000-210 AN_NP-L20000-240
NAAPS Forecast files	AN_NP-L10015-030 AN_NP-L10015-060 AN_NP-L10015-090 AN_NP-L10015-120 AN_NP-L10015-150 AN_NP-L10015-180 AN_NP-L10015-210 AN_NP-L10015-240

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

2.3 QA Truth Data

Quality Assurance (QA) Ground Truth (GT) data is used in making operational data quality checks. They provide the Data Quality Engineer (DQE) an independent view of environmental conditions for quick, external comparisons of NPP and JPSS data products. QA Truth Data in this section represents a baseline data set the DQE may use for those checks. The choice and frequency of GT data used will depend on the product undergoing a comparison. In general GT data retrieval will incorporate data types that support quick comparison of SDRs and EDRs. Key Performance Parameter comparisons will probably occur routinely driving a consistent data set frequently accessed for example.

GT data formats vary periodically so the exact format specification of the types listed below is not provided in this document. Where possible, a link to the controlling website listed in the Data Content and Format section provides details on the data format. Note that websites and internet URLs can be ephemeral and dynamic. The addresses listed in this section may require periodic updates.

The data types listed in this document represent a subset of a much larger terrestrial and space environment GT data set. Emerging technologies in space and ground based sensing systems and networks as well as experience will dictate periodic updates to GT data access and its roll in operations. This includes formats, data types, sources, comparison methodologies, etc. GT data access and retrieval coupled with its role in operational external data quality checks will be a dynamic process

2.3.1 Aircraft Communications Addressing and Reporting System Files

Data Mnemonic	AN_NP-L40110-001
Description/ Purpose	NOAA's Earth System Research Laboratory (ESRL) Global Systems Division (GSD) collects automated meteorological data reports from aircraft worldwide. AMDAR is the generic term for aircraft reported meteorological data. Under AMDAR GSD identifies two data classes: Aircraft Communications Addressing and Reporting System (ACARS) and Meteorological Data and Collection and Reporting System (MDCRS). For more information on AMDAR, see: http://amdar.noaa.gov/FAQ.html Note: Data link provides access to archived data only and requires an account and login credentials.

File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	Averages 4 MiB/day
File Format Type	Network - Common Data Format (NetCDF) as obtained from ESRL/GSD
Production Frequency	Roughly every 15 minutes
Data Content and Data Format	Data link: ftp://pftp.madis-data.noaa.gov

2.3.2 Aerosol Robotic Network Files

Data Mnemonic	AN_NP-L40010-001
Description/ Purpose	The AERONET (AErosol RObotic NETwork) program is a federation of ground-based remote sensing aerosol networks established by NASA and PHOTONS (Univ. of Lille 1, CNES, and CNRS-INSU) and is greatly expanded by collaborators from national agencies, institutes, universities, individual scientists, and partners. The program provides a long-term, continuous and readily accessible public domain database of aerosol optical, mircrophysical and radiative properties for aerosol research and characterization, validation of satellite retrievals, and synergism with other databases. The network imposes standardization of instruments, calibration, processing and distribution.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	~20 KiB/station/day
File Format Type	ASCII
Production Frequency	Every 12 hours
Data Content and Data Format	Data links: : http://aeronet.gsfc.nasa.gov/cgi-bin/type_piece_of_map_opera_v2_new?level=3

2.3.3 Automated Surface Observing System Files

Data Mnemonic	AN_NP-L40020-001
Description/ Purpose	The Automated Surface Observing System (ASOS) is an automated observing system with funding provided by Federal Aviation Administration (FAA), NWS, and Department of Defense (DoD). Observations include: temperature, dew point, wind, altimeter setting, visibility, sky condition, and precipitation. There are 569 FAA sponsored and 313 NWS sponsored sites. ASOSs are installed at airports throughout the US.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	Variable. ~ 1 MiB/hour.
File Format Type	ASCII
Production Frequency	Updated Hourly DQM should be able to download data 5 minutes past the hour.
Data Content and Data Format	Data link: ftp://tgftp.nws.noaa.gov

2.3.4 Baseline Surface Radiation Network Files

Data Mnemonic	AN_NP-L40210-001
Description/ Purpose	Baseline Surface Radiation Network (BSRN) is a project of the Radiation Panel from the Global Energy and Water Cycle Experiment GEWEX under the umbrella of the World Climate Research Programme (WCRP) and as such is aimed at detecting important changes in the Earth's radiation field at the Earth's surface which may be related to climate changes. Note: Access to data requires an account and login credentials.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	~ 100 KiB/Day
File Format Type	ASCII
Production Frequency	Varies, but nominally months
Data Content and Data Format	Data link: http://www.bsrn.awi.de/en/data/data_retrieval_via_pangaea/

2.3.5 Ozone Sonde Network Files

Data Mnemonic	AN_NP-L40150-001
Description/ Purpose	The Ozone Sonde Network provides ozone profiles, measured at eight sites, using balloon-borne electrochemical ozone sondes. Also included are temperature and humidity measurements. The vertical range is from the surface to 32 km. The data is used for comparison with ozone profile and total column EDRs.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	~ 50-100 KiB/station
File Format Type	ASCII, comma separated values
Production Frequency	Varies, but typically weekly where available
Data Content and Data Format	Data link: : ftp://ftp.cmdl.noaa.gov/ozwv/ozone/

2.3.6 Radiosonde Observation Files

Data Mnemonic	AN_NP-L40170-001
Description/ Purpose	Radiosonde Observations (RAOB) provide atmospheric conditions, measured from the surface through 10 mb, using balloon-borne instruments. During ascent, information is radioed back to ground until the balloon bursts typically around 10 mb. Observations include temperature, pressure, moisture, and wind information at various levels. This data is used to compare with AVMP, AVTP, Atmospheric Vertical Pressure Profile (AVPP), and VIIRS Precipitable Water.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	Varies, typically less than 5 KiB/report
File Format Type	ASCII Text or NetCDF
Production Frequency	Twice per day at 0Z and 12Z.
Data Content and Data Format	Data link: http://www.esrl.noaa.gov/raobs/

2.3.7 Ship/Buoy Files

Data Mnemonic	AN_NP-L40130-001
Description/ Purpose	The National Data Buoy Center (NDBC) provides hourly observations from a network of about 70 buoys and 60 C-MAN stations. All stations measure • wind speed, direction, and gust • barometric pressure • air temperature Buoys and some C-MAN stations also report bulk sea surface temperatures, wave height, and period.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	Varies from 1 KiB to 110 KiB
File Format Type	ASCII Text (Tabular)
Production Frequency	The electronics on moored buoys and at C-MAN sites generally transmit data every hour, and resulting data is usually made available within ~30 minutes.
Data Content and Data Format	Data link: http://ndbc.noaa.gov

2.3.8 Global Data Assimilation System (GDAS) Files

Data Mnemonic	AN_NP-L40000-001
Description/ Purpose	NCEP produces a final model run with the GFS program called the Global Data Assimilation System (GDAS) "analysis". The GDAS and GFS each run 4 times per day. The GDAS runs last and produces a 9-hour forecast and represents the catch-up backbone for the next cycle.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	~ 22 MiB
File Format Type	GRIB
Production Frequency	The analysis is produced four times per day (every 6 hours) with effectivity times of 0Z, 6Z, 12Z, and 18Z. The analysis is available approximately 7 hours after the synoptic time.
Data Content and Data Format	Data link: ftp://ftpprd.ncep.noaa.gov/pub/data/nccf/com/gfs/prod/

2.3.9 AMSU-A Brightness Temperature

Data Mnemonic	AN_NP-L40350-001
Description/ Purpose	The Advanced Microwave Sounding Unit A (AMSU-A) level 1B data set contains AMSU-A calibrated and geolocated brightness temperatures in degrees Kelvin. This data set is generated from AMSU-A Level 1A digital numbers (DN) and contains 15 microwave channels in the 50 - 90 GHz and 23 - 32 GHz regions of the spectrum.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	~ 400 KiB/Granule
File Format Type	Hierarchical Data Format – Earth Observing System (HDF-EOS) Swath (Version 4)
Production Frequency	A single granule is 6 minutes in duration, and is available as processed.
Data Content and Data Format	Data link: ftp://airscal1u.ecs.nasa.gov/ftp/data/s4pa/Aqua_AIRS_Level1/AIRABRAD.005/

2.3.10 MODIS/Aqua Cloud Mask Product

Data Mnemonic	AN_NP-L40020-002
Description/ Purpose	The Moderate Resolution Imaging Spectroradiometer (MODIS) onboard Aqua (MODIS/Aqua) produces this Cloud Mask and Spectral Test Results product every 5-Minutes at 250m (day only) and 1km (day and night) spatial resolutions. The granules spatial coverage is 2330 x 2030 km.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	44.5 MiB – 45.8 MiB
File Format Type	HDF-EOS (based on Hierarchical Data Format Release 4, HDF4)
Production Frequency	65 files per day
Data Content and Data Format	Data link: http://ladsweb.nascom.nasa.gov/data/search.html

2.3.11 DELETED

2.3.12 MODIS/Aqua Sea Surface Temperature Product

Data Mnemonic	AN_NP-L40190-002
Description/ Purpose	MODIS/Aqua produces this Sea Surface Temperature (SST) Product in 5-Minute granules with a 1km nadir spatial resolution. The granule's spatial coverage is 2330 x 2030 km. The SST fields are stored using HDF Science Data Sets and are written as unsigned integers. Parameters include: SST (11 micron) and SST4 (4 micron). There are no geolocation fields/mappings in this file.
File-Naming Construct	Filename modified from native – see the File-Naming Convention for Ancillary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 for details. Native/Source filename allocated by source – see source website for details
File Size	32.8 MiB
File Format Type	HDF-EOS (based on HDF4)
Production Frequency	288 files per day
Data Content and Data Format	Data link: ftp://oceans.gsfc.nasa.gov/MODIST/

2.4 C3S Ancillary Data for Orbital Support

The C3S Ancillary Data for Orbital Support is not described in this volume of the CDFCB-X. Even though the data is retrived from external sources and used within C3S, the data content and format is not controlled by the JPSS Program nor is this data is not delivered or released by the JPSS Program. As such, the only reference and description of the C3S Orbital Support data is listed in the 474-00002-01 CIS ICD Volume I External document.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

3.0 AUXILIARY DATA FORMATS

Auxiliary Data is data other than that included in the sensor application packets, which is produced internally by JPSS, and is used to produce the JPSS Data Products.

The following data formats describe Auxiliary Data files, which are delivered to external users.

3.1 Auxiliary Data HDF5 Details

The Auxiliary Data files delivered as HDF5 files via IDPS are shown in Table 3.1-1, Auxiliary Data Files Delivered as HDF5 by IDPS[2].

Table 3.1-1, Auxiliary Data Files Delivered as HDF5 by IDPS

Description	Effectivity
TLE	NPP State 1 NPP / JPSS State 2 JPSS Only, State 3
GCOM Nominal TLE	GCOM-W (Start Block 1.2.2)
GCOM Off Nominal TLE	GCOM-W (Start Block 1.2.2)
GCOM Contingency TLE	GCOM-W (Start Block 1.2.2)
Selected Automatic Processing Coefficients	NPP State 1 NPP / JPSS State 2 JPSS Only, State 3
Mission Notices	NPP / JPSS State 2 JPSS Only State 3
Revolution Number	NPP / JPSS State 2 JPSS Only State 3

The following information describes the HDF5 file's format via a UML diagram. The UML diagram indicates the attributes, groups, and datasets used in the HDF5 file to describe the Auxiliary Data files.

Figure 3.1-1, Generalized UML Diagram for HDF5 Auxiliary Data Files, depicts the HDF5 Auxiliary Data organization as a UML class diagram. Each HDF5 Auxiliary Data file contains an HDF5 Root Group, '/', an Auxiliary Dataset, and an All Data Group (the actual data). For the definition and organization of the metadata attributes contained in the HDF5 files, see the JPSS CDFCB-X Vol. V, 474-00001-05.

[2] See the Interface Control Document's Data Delivery Interfaces for an explicit list of data mnemonics.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

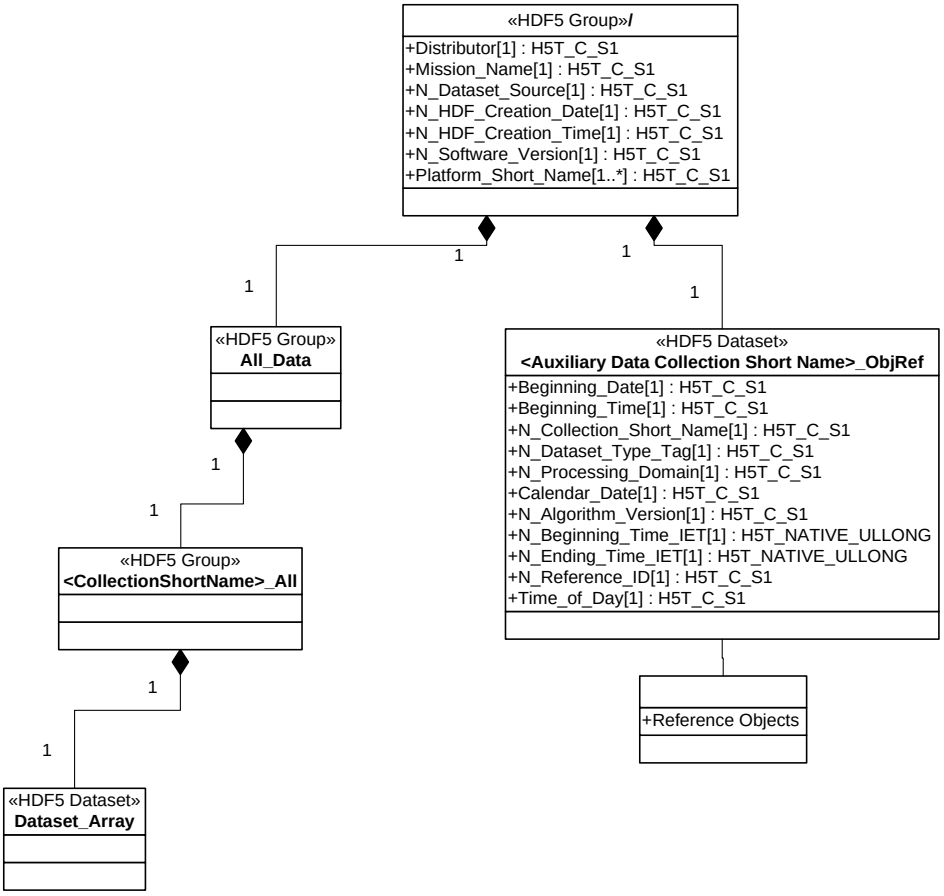

Figure 3.1-1, Generalized UML Diagram for HDF5 Auxiliary Data Files

3.2 Processing Coefficient Tables

Data Mnemonic	DP_NU-LM2020-001
Description/ Purpose	Provided by DQM and used in the generation of SDRs and EDRs. Processing Coefficient is a general term and includes the subtypes: Manual Ephemeral, Manual Initialization, and Automated. The Manual Ephemeral format is described in this section. For information on the other subtypes of Processing Coefficients see JPSS CDFCB-X Vol. VIII, 474-00001-08, Section 3.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. Version Number Field provides Provenance Version Identifier The Collection Short Name is used in the filename – see the JPSS CDFCB-X Vol. I, 474-00001-01, Appendix B for the applicable Collection Short Names. Notes: • The origin Field is always DQM • The End Effectivity field displays all zeroes for the date, since it cannot be pre-determined for these files
File Size	Varies and is never zero-length
File Format Type	XML
Production Frequency	Varies - infrequent, nominally once or twice yearly
Data Format and Data Structure	See Table 3.2-1, Processing Coefficient Table Format, for details. The various distinct Processing Coefficient parameters are documented in JPSS CDFCB-X Vol. VIII, 474-00001-08, Section 3.2.2, Ephemeral Processing Coefficients.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 3.2-1, Processing Coefficient Tables Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
dqmtable	N/A	complexType	Attributes: type Subfields: columnlist coefficients	N/A	Superset of all attributes used by coefficients in this table. Used in building the columns of any table to view the coefficients
type	N/A	String	Coefficient	N/A	Indicates the type of information contained in the XML file
columnlist	N/A	String	name description units skinbulk daynight aeroregime	N/A	Lists the attributes that are included in the coeff element
coefficients	N/A	complexType	Attributes: csname Subfields: Coeff	N/A	The parent element of the attributes and elements that constitute a set of processing coefficients for a given instrument, sensor, and product
csname	N/A	String	Collection Short Name	N/A	The Collection Short Name for this Processing Coefficient See the JPSS CDFCB-X Vol. I, 474-00001-01
coeff	N/A	complexType	Attributes: description skinbulk daynight aeroregime Subfields: id name type value sdigits min max	N/A	Each 'coeff' contains info representing 1 coefficient and consists of an attribute list which varies from file to file (product to product) but should be roughly the same amongst 'coeff' instances within the same file/product. Each 'coeff' also contains fixed tags that are the same across all files/products for each 'coeff'
description	N/A	String	Text string containing less than 255 characters	N/A	A brief description of the specific coefficient

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
skinbulk	N/A	String	skin bulk	N/A	Indicates whether this coefficient applies to skin or bulk
daynight	N/A	String	day night	N/A	Indicates whether this coefficient applies to day or night
aeroregime	N/A	String		N/A	
id	N/A	String	Text string containing less than xxx characters	N/A	The ID of this coefficient within this file/product
name	N/A	String	Text string containing less than xxx characters	N/A	The name of this coefficient within this file/product
type	N/A	String	Valid Data Type	N/A	The type of this coefficient (e.g., 'int', 'float', 'long', double')
value	N/A	Float32	1.40239846e-45 - 3.40282347e+38	N/A	The value of this coefficient in the given type This value must be of the same datatype as min and max
sdigits	N/A	Integer	1 - 2147483 647	N/A	The significant digits expected
min	N/A	Float32	Greater than - 1.40239846e-45	N/A	The minimum value allowed This value, the max value, and that of the element value should be of the same datatype
max	N/A	Float32	Less than 3.40282347e+38	N/A	The maximum value allowed This value, the min value, and that of the element value should be of the same datatype

Example 3.2-1, Processing Coefficients Tables XML Schema

```
<?xml version="1.0" encoding="UTF-8" ?>

<xsd:schema xmlns:xsd=http://www.w3.org/2001/XMLSchema>

<xsd:annotation>
        <xsd:documentation xml:lang=”en”>
                Processing Coefficients Tables Updates XML Schema

                Filter/data on this Coefficient table
                        'csname'        - The Collection Short Name for the spacecraft,
                                          sensor (etc.) represented by this file

                Each 'coeff' contains info representing 1 coefficient and consists of
                an attribute list which varies from file to file (product to product) but
                should be roughly the same amongst 'coeff' instances within the
                same file/product. Each 'coeff' also contains fixed tags that are the
                same across all files/products for each 'coeff'. They are:
                        'id'            - The ID of this coefficient within this
                                                file/product.
                        'name'          - The name of this coefficient within this
                                                file/product.
                        'type'          - The type of this coefficient (e.g. 'int', 'float',
                                                'long', double').
                        'value'         - The value of this coefficient in the given type.
                        'sdigits'- The significant digits that this value should be
                                                in.
                        'min'           - The minimum value that the value can be.
                        'max'           - The maximum value that the value can be.
        </xsd:documentation>
</xsd:annotation>

<xsd:complexType name=”dqmtable”>
<xsd:attribute name=”type” type=”type” />
        <xsd:sequence>
                <xsd:element name=”columnlist” type=”columnlist” />
                <xsd:element name=”coefficients” type=”coefficients” />
        </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name=”type” type=”xsd:string” />
        <xsd:restriction base=”xsd:string”>
                <xsd:enumeration value=”Coefficient” />
        </xsd:restriction>
</xsd:simpleType>
```

```
<xsd:simpleType name="columnlist" type="xsd:string" />
        <xsd:restriction base="xsd:string">
                <xsd:enumeration value="name" />
                <xsd:enumeration value="description" />
                <xsd:enumeration value="units" />
                <xsd:enumeration value="skinbulk" />
                <xsd:enumeration value="daynight" />
                <xsd:enumeration value="aeroregime" />
        </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="coefficients">
        <xsd:attribute name="csname" type="xsd:string" />
        <xsd:sequence>
                <xsd:element name="coeff" type="coeff" />
        </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="category">
        <xsd:restriction base="xsd:string">
                <xsd:enumeration value="EDR" />
                <xsd:enumeration value="IP" />
                <xsd:enumeration value="SDR" />
                <xsd:enumeration value="TDR" />
                <xsd:enumeration value="RDR" />
                <xsd:enumeration value="ARP" />
        </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="coeff">
<xsd:attribute name="name" type="xsd:string" />
        <xsd:attribute name="description" type="xsd:string" />
<xsd:attribute name="units" type="xsd:string" />
        <xsd:attribute name="skinbulk" type="xsd:string" />
        <xsd:attribute name="daynight" type="xsd:string" />
        <xsd:attribute name="aeroregime" type="xsd:string" />
        <xsd:sequence>
                <xsd:element name="id" type="xsd:string" />
                <xsd:element name="name" type="xsd:string" />
    <xsd:element name="type" type="xsd:string" />
                <xsd:element name="value" type="xsd:float32" />
                <xsd:element name="sdigits" type="xsd:integer" />
                <xsd:element name="min" type="xsd:float32" />
                <xsd:element name="max" type="xsd:float32" />
        </xsd:sequence>
</xsd:complexType>
```

```
</xsd:schema>

<!--// DTD //-->

<!ELEMENT dqmtable ( columnlist, coefficients ) >
<!ATTLIST dqmtable type NMTOKEN #FIXED "Coefficient" >
<!ELEMENT columnlist ( #PCDATA ) >
<!ELEMENT coefficients ( coeff* ) >
<!ATTLIST coefficients NMTOKEN #FIXED "npp" >
<!ELEMENT coeff ( id, name, type, value, sdigits, min, max ) >
<!ATTLIST coeff name CDATA #IMPLIED >
<!ATTLIST coeff description CDATA #IMPLIED >
<!ATTLIST coeff units CDATA #IMPLIED >
<!ATTLIST coeff skinbulk CDATA #IMPLIED >
<!ATTLIST coeff daynight CDATA #IMPLIED >
<!ATTLIST coeff aeroregime CDATA #IMPLIED >
<!ELEMENT id ( #PCDATA ) >
<!ELEMENT name ( #PCDATA ) >
<!ELEMENT type ( #PCDATA ) >
<!ELEMENT value ( #PCDATA ) >
<!ELEMENT sdigits ( #PCDATA ) >
<!ELEMENT min ( #PCDATA ) >
<!ELEMENT max ( #PCDATA )
```

3.3 Factory Memory Loads

Data Mnemonic	DP_NU-L00020-020
Description/ Purpose	Common data transport format for the receipt of memory load data at the Mission Management Center (MMC). For an example of the usage of this format, see Appendix A, Example Data Files. This example shows use of this format for Sensor Calibration Table Updates.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename – see the JPSS CDFCB-X Vol. I, 474-00001-01, Appendix B for the applicable Collection Short Names. For all Sensors, when applicable, the following is used for the version field: IDzzz-Vxxx-yyy where zzz is the ID number and xxx-yyy are the major and minor version numbers of the table.
File Size	10 MiB (max size)
File Format Type	XML
Production Frequency	Dynamic
Data Format and Data Structure	See Table 3.3-1, Factory Memory Loads Format, for details, Example 3.3-1, XML Schema for Factory Memory Loads, and Appendix A, Example Data Files, for an example data file.

This XML file format is the format for binary data intended for uplink to the spacecraft. Any binary data that needs to be uplinked to the spacecraft or sensors should use this format so that Satellite Operations Command Load Generation can readily generate the appropriate commands to uplink the data, and so that Mission Management can schedule the uplink. This binary can include a variety of data types, from calibration tables to flight software patches.

Table 3.3-1, Factory Memory Loads Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
memoryLoadInput	N/A	String	N/A	N/A	Mandatory field. This is the root XML tag in the file. It contains all of the tags described below. Attributes in this tag are set as follows: xmlns:xsi= "http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation= "memoryLoadInput.xsd"
spacecraft	N/A	String	NPP N01 N02	N/A	Mnemonic for spacecraft Mandatory

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
destination	N/A	String	ATMS CrIS VIIRS OMPS CDP SCC SCP PSP DSU	N/A	Mnemonic for destination subsystem Note: CDP & SCC are valid values for NPP only Note: SCP, PSP & DSU are valid values for N01 & N02 only This is the instrument name for sensor loads Note: ATMS, CrIS, VIIRS & OMPS are valid for NPP, N01 & N02 Mandatory Acronyms: SCC - Spacecraft Control Computer CDP - Command and Data Processor SCP - Spacecraft Control Processor PSP - Payload Support Processor DSU - Data Server Unit
dateCreated	N/A	dateTime	YYYY (2005 – 2030) MM (01- 12) DD (01- 31) HH (00 – 23) MM (00 – 59) SS (00 – 59)	Date/Time	YYYY-MM-DDTHH:MM:SSZ Date of data file creation Mandatory dateTime is a predefined XML field that requires correct date and time formatting. Correctly identifying the type as dateTime also eliminates the need for specifying how to build the date string.
uplinkInterval	N/A	ComplexType	Subfields: uplinkInterval:startInterval uplinkInterval:endInterval	N/A	The range of effectivity in which the data is still valid to use for an uplink.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
uplinkInterval:startInterval	N/A	dateTime	YYYY (2005 – 2030) MM (01- 12) DD (01- 31) HH (00 – 23) MM (00 – 59) SS (0 – 59)	Date/Time	YYYY-MM-DDTHH:MM:SSZ The range of effectivity in which the data is still valid to use for an uplink. dateTime is a predefined XML field that requires correct date and time formatting. Correctly identifying the type as dateTime also eliminates the need for specifying how to build the date string.
uplinkInterval:endInterval	N/A	dateTime	YYYY (2005 – 2030) MM (01- 12) DD (01- 31) HH (00 – 23) MM (00 – 59) SS (0 – 59)	Date/Time	YYYY-MM-DDTHH:MM:SSZ The range of effectivity in which the data is still valid to use for an uplink. dateTime is a predefined XML field that requires correct date and time formatting. Correctly identifying the type as dateTime also eliminates the need for specifying how to build the date string.
sizeInBytes	N/A	Integer	>=1	Bytes	Total size of load, in bytes Includes all memory blocks in the load
memBlock	N/A	ComplexType	Subfields: memBlock:startAddress memBlock:tableAddr memBlock:sizeInBytes memBlock:data	N/A	Consists of addressing information and binary data There can be N memory blocks in a load, allowing loading of non-contiguous memory regions in a single load. Choice - Either startAddress or tableAddr must be provided
memBlock:startAddress	N/A	String	0-9 a-f	Hexadecimal	Hex address to load memory block to startAddress is a valid choice for destinations of SCP, PSP & DSU

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
memBlock:tableAddr	N/A	ComplexType	tableId tableOffset	N/A	The combination of tableId and tableOffset and sizeInBytes tableAddr is a valid choice for destinations of CDP, SCC, ATMS, CrIS, VIIRS & OMPS
memBlock:tableAddr:tableId	N/A	Integer	1000>=tableId>=0	N/A	Number identifier of table to which the memory block should be loaded Mandatory
memBlock:tableAddr:tableOffset	N/A	Integer	>=0	N/A	The offset in bytes or (blocks of bytes for some large tables) for the load Mandatory
memBlock:sizeInBytes	N/A	Integer	>=1	Bytes	Size, in bytes, of this memory block Mandatory
memBlock:data	N/A	String	0-9 a-f	Hexadecimal	The binary data, in ASCII hex representation Mandatory This is the actual data being uploaded As long as the lines contain valid hexadecimal representation of data, it reads as much data as is available on each line and forms a single "string" of the data to be loaded.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Example 3.3-1, XML Schema for Factory Memory Loads

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <xsd:simpleType name="spacecraftType">
        <xsd:restriction base="xsd:string">
                <xsd:enumeration value="NPP" />
                <xsd:enumeration value="N01" />
                <xsd:enumeration value="N02" />

        </xsd:restriction>
  </xsd:simpleType>

  <xsd:element name="uplinkInterval">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="startInterval" type="xsd:dateTime" minOccurs="1"
        maxOccurs="1"/>
        <xsd:element name="endInterval" type="xsd:dateTime" minOccurs="1" maxOccurs="1"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>

  <xsd:group name="tableAddr">
    <xsd:sequence>
      <xsd:element name="tableId" type="xsd:integer" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="tableOffset" type="xsd:integer" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
  </xsd:group>

  <xsd:element name="memBlock">
    <xsd:complexType>
      <xsd:sequence>
      <xsd:choice>
        <xsd:element name="startAddress" type="xsd:string" minOccurs="1" maxOccurs="1"/>
        <xsd:group ref="tableAddr"/>
      </xsd:choice>
      <xsd:element name="sizeInBytes" type="xsd:integer" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="data" type="xsd:string" minOccurs="1" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
```

```
  <xsd:element name="memoryLoadInput">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="spacecraft" type="spacecraftType" minOccurs="1"
        maxOccurs="1"/>
        <xsd:element name="destination" type="xsd:string" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="dateCreated" type="xsd:dateTime" minOccurs="1"
        maxOccurs="1"/>
        <xsd:element ref="uplinkInterval" minOccurs="0" maxOccurs="1"/>
        <xsd:element name="sizeInBytes" minOccurs="1" maxOccurs="1"/>
        <xsd:element ref="memBlock" minOccurs="1" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
</xsd:schema>

<!--// DTD //-->

<?xml version="1.0" encoding="UTF-8" ?>
<!--
     Factory Memory Loads DTD/schema file.
-->

<!ELEMENT memoryLoadInput( spacecraft, destination, dateCreated, uplinkInterval,
sizeInBytes, memBlock ) >
<!ELEMENT uplinkInterval( startInterval, endInterval ) >
<!ELEMENT tableAddr( tableID, tableOffset ) >
<!ELEMENT memBlock( startAddress, tableAddr, sizeInBytes, data ) >
<!ELEMENT startInterval (#PCDATA) >
<!ELEMENT endInterval ( #PCDATA) >
<!ELEMENT tableID (#PCDATA) >
<!ELEMENT tableOffset (#PCDATA) >
<!ELEMENT startAddress (#PCDATA) >
<!ELEMENT sizeInBytes (#PCDATA) >
<!ELEMENT data (#PCDATA) >
<!ELEMENT spacecraft (#PCDATA) >
<!ELEMENT destination (#PCDATA) >
<!ELEMENT dateCreated (#PCDATA) >
```

3.4 Data Quality Threshold Tables

Data Mnemonic	DP_NU-LM2030-000
Description/ Purpose	Data Quality Threshold Tables (DQTT) provide the threshold values for use as a mechanism to monitor the quality of JPSS Data Products. Nominal production of these files is at National Environmental Satellite, Data, and Information Service (NESDIS) only.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename, – see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names. Notes: • The Origin field is used as follows: o Baseline DQTTs (OPR & MON type) – “devl” o Local DQTTs – “noaa“ • The Origin Domain is used as follows: o Baseline DQTTs (OPR & MON type) – “dev” o Local DQTTs – “ops“ • The End Effectivity field is nominally displayed as all zeroes for Baseline DQTTs since it cannot be pre-determined for these files • The End effectivity field for LOCAL DQTTs will indicate an actual date for cases where the DQTT is to be used in Operations for limited time period • Version: o “BASELINE-“<type><version> o <type> is 3 chars max – “OPR”,or “MON” o <version> is a 1-4 char version field – nominally numeric, but alphanumeric is allowed o “LOCAL-“<site><details> o <site> is the 4 char Site identifier from the AUX filename convention. o <details> is the 6 character details of why the local version exists (i.e. initials of the originator, DQM or person, version number). A Version number may be used for Local versions left in operations for long periods of time. • The Destination field will be used as follows o Operational Baseline DQTTs (OPR type) – “dod-” o Monitoring Baseline DQTTs (MON type) – “noaa” o Local DQTTs – Site name from version.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	• The Destination Domain field will always be “ops”
File Size	Varies and is never zero-length
File Format Type	XML
Production Frequency	Varies
Data Content and Data Format	See Table 3.4-1, Data Quality Threshold Tables Format, for details.

Table 3.4-1, Data Quality Threshold Tables Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
dqmtable	N/A	complexType	Attributes: type Subfields: dqthresholdchecks	N/A	Superset of all attributes used by thresholds in this table Used in building the columns of any table used to view the thresholds
type	N/A	String	DQThreshold	N/A	The type of information contained in this XML file
dqthresholdchecks	N/A	complexType	Attributes: spacecraft csname Subfields: Dqtcheck	N/A	The parent element of the attributes and elements that constitute a set of data quality thresholds for a given instrument, sensor, and product
spacecraft	N/A	String	Spacecraft Alphanumeric	N/A	The spacecraft represented in this file See the JPSS CDFCB-X Vol. I, 474-00001-01, Appendix D
csname	N/A	String	Collection Short Name	N/A	The Collection Short Name for this DQTT See the JPSS CDFCB-X Vol. I, 474-00001-01

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
dqtcheck	N/A	complexType	Attributes: id Subfields: name description testtype active severity fieldtype min max thresholdcount	N/A	This is a repeating element (maximum 25 repetitions). Detailed structure and contents of this element are described below.
id	N/A	String	Text String containing a numeric value not to exceed 5 characters. Refer to Appendix C, DQTT Quality Flag Mapping, for applicable values.	N/A	Unique ID for this check
name	N/A	String	Text string containing less than 256 characters	N/A	A unique name for the check/test
description	N/A	String	Text string containing less than 256 characters	N/A	A description of the test/check

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
testtype	N/A	String	Integer Type Tests: Less Than Greater Than In Range Out of Range Single Bit Flag Array Tests: Number of Bits Set	N/A	The test being performed for this check This value affects the use of the min and max fields as follows: The min tag should only be used for a value of “Less Than”, the lower limit of “In Range”, or the lower limit of “Out of Range” .When not used, the min tag is null. The max tag should only be used for a value of “Greater Than”, the upper limit of “In Range”, or the upper limit of “Out of Range”. When not used, the max tag is null.
active	N/A	Boolean	True False	N/A	Indicates whether the test is active or inactive.
severity	N/A	String	CRITICAL ALARM WARNING NORMAL	N/A	For Severity Level descriptions see Table 3.4-2.
fieldtype	N/A	String	int16	Datatype	The type of the field (and 'min'/'max') for use in validating the value
min	N/A	String	-32768 to 32767	N/A	1. The minimum value of the field data for test types of “Less Than”, the lower limit of “In Range”, or the lower limit of “Out of Range”. For example, “Less Than" "263." “In Range” is inclusive, i.e. the min is considered “In Range”.2. If testtype = “Greater Than”, then this field is null. 3. If testtype = “Number of Bits Set”, then this field is null. 4. This value and the max value should be of the same datatype

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
max	N/A	String	-32768 to 32767	N/A	1. The maximum value of the field data for test types of "Greater Than" the upper limit of "In Range" or the upper limit of "Out of Range" . For example, "Greater Than" "724." "In Range" is inclusive, i.e. the max is considered "In Range". 2. If testtype = "Less Than", then this field is null. 3. If testtype = "Number of Bits Set", then this field is null. 4. This value and the min value should be of the same datatype
thresholdcount	N/A	integer	0 – 2147483647, -1 (indicates all bits set)	N/A	The number of times that a threshold check must fail before a Data Quality Notification (DQN) is generated. Used for Single Bit Flag Array tests.

The meaning of the severity levels given above are shown below in Table 3.4-2, Severity Levels.

Table 3.4-2, Severity Levels

Severity	Description
CRITICAL	Emergency level requires immediate Operator action. Only “Alert” Display Flags may be used with this Severity Level.
ALARM	Failure level. Requires Operator attention. All Alarm messages will have Logging Level of “Ops” and default Display Flag of “Acknowledge”.
WARNING	An error or situation that the Operator should know about. All Warning messages will have logging level “Ops”, although they can have default Display Flag of “normal”.
NORMAL	A message indicating Normal activity. For operational code, this typically does not have an “Alert” or “Acknowledge” Display Flag.

Example 3.4-1, XML Schema for Data Quality Threshold Tables

```
<?xml version="1.0" encoding="UTF-8" ?>

<xsd:schema xmlns:xsd=http://www.w3.org/2001/XMLSchema>

<xsd:annotation>
        <xsd:documentation xml:lang=”en”>
                Data Quality Threshold Tables XML  Schema

                Filter/data on this DQT Check table.
                        'spacecraft'   - The spacecraft represented by this DQ
                                         Threshold XML file.
                        'sensor'       - The sensor represented by this DQ Threshold
                                         XML file.
                        'category'     - The category represented by this DQ
                                         Threshold XML file.
                        'product'      - The product represented by this DQ
                                         Threshold XML file.
                        'csname'       - The Collection Short Name for the spacecraft,
                                         sensor (etc.) represented by this file.

                List of DQ Checks to perform.
                        'id'           - Unique ID for this check. Corresponds  to the
                                         response for that check in the Response file.
                        'name'         - The name of the check/test.
                        'description'  - A description of the test/check.
                        'testtype'     - The test being performed for this check. Must
                                         be one of : "Less Than", "Greater Than", "In
                                         Range", "Out of Range"
                        'fieldtype'    - The type of the field (and 'min'/'max') for use in
                                         validating the value. Usually one of: "int",
                                         "float", long", "double", or "date".
                        'min'          - The minimum value of the field data for the
                                         given test. Such as "Less Than" "263". Can
                                         be null depending on the 'testtype' as indicated
                                         by a "<min/>
                        'max'          - The maximum value of the field data for the
                                         given test. Such as "Greater Than" "724". Can
                                         be null depending on the 'testtype' as indicated
                                         by a "<max/>
                        'thresholdcount' - The number of times that a threshold check
                                         must fail before a DQN is generated.
                        'active'       - Is DQN interested in failures of this check.
        </xsd:documentation>
</xsd:annotation>
```

```
<xsd:complexType name="dqmtable">
        <xsd:attribute name="type" type="dtype" />
        <xsd:sequence>
                <xsd:element name="dqthresholdchecks" type="dqthresholdchecks" />
        </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="dtype">
        <xsd:restriction base="xsd:string">
                <xsd:enumeration value="DQThreshold" />
        </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="dqthresholdchecks">
        <xsd:attribute name="spacecraft" type="xsd:string" />
        <xsd:attribute name="csname" type="xsd:string" />
        <xsd:sequence>
                <xsd:element name="dqtcheck" type="dqtcheck" />
        </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="dqtcheck">
        <xsd:attribute name="id" type="xsd:string" />
        <xsd:sequence>
                <xsd:element name="name" type="xsd:string" />
                <xsd:element name="description" type="xsd:string" />
                <xsd:element name="testtype" type="xsd:string" />
                <xsd:element name="active" type="active" />
                <xsd:element name="severity" type="xsd:string" />
                <xsd:element name="fieldtype" type="xsd:string" />
                <xsd:element name="min" type="xsd:float32" />
                <xsd:element name="max" type="xsd:float32" />
                <xsd:element name="thresholdcount" type="xsd:integer" />
        </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="active">
        <xsd:restriction base="xsd:boolean">
                <xsd:enumeration value="true" />
                <xsd:enumeration value="false" />
        </xsd:restriction>
</xsd:simpleType>
</xsd:schema>

<!--// DTD //-->
<?xml version="1.0" encoding="UTF-8" ?>
```

```
<!--
    DQM Threshold Check DTD/schema file.
-->
<!ELEMENT dqmtable ( dqthresholdchecks )>
<!ATTLIST dqmtable type NMTOKEN #FIXED "DQThreshold">
<!ELEMENT dqthresholdchecks ( dqtcheck* )>
<!ATTLIST dqthresholdchecks spacecraft>
<!ATTLIST dqthresholdchecks csname>
<!ELEMENT dqtcheck ( name, description, testtype, active, severity, fieldtype, min, max,
thresholdcount,)>
<!ATTLIST dqtcheck id NMTOKEN #REQUIRED>
<!ELEMENT name ( #PCDATA )>
<!ELEMENT description ( #PCDATA )>
<!ELEMENT testtype ( #PCDATA )>
<!ELEMENT active ( #PCDATA )>
<!ELEMENT severity ( #PCDATA ) >
<!ELEMENT fieldtype ( #PCDATA )>
<!ELEMENT min ( #PCDATA )>
<!ELEMENT max ( #PCDATA )>
<!ELEMENT thresholdcount ( #PCDATA )>
```


Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

3.5 Two Line Element Sets

Data Mnemonic	C3_NU-L00100-100
Description/ Purpose	JPSS and GCOM generate TLE data which provides a compact means of predicting JPSS and GCOM ephemeris. Given a TLE set and the Simplified General Perturbation No. 4 (SGP4) propagator, a user may generate position and velocity for the associated satellite over a specified period. While not as accurate as using Predicted Ephemeris, this data is generally sufficient for low-precision applications such as predicting satellite visibilities in the near term (on the order of days).

File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4
	The Collection Short Name is used in the filename, see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
	For NPP and JPSS SC, the Filename is based upon the following specific information, all other filename fields are variable per the Convention:
	• Production Timestamp – Date/Time C3S produced the TLE
	• Effectivity Start – Date/Time based on Epoch in the TLE
	• Effectivity End - ee00000000000000Z
	• Origin – c3s
	• Origin Domain – ops for Operations, variable for non-operations
	• Destination – noaa
	• Destination Domain – ops for Operations, variable for non-operations
	• Extension - .txt
	For GCOM-W SC, the Filename is based upon the following specific information, all other filename fields are variable per the Convention:
	• Production Timestamp – FOC A
	  o Date/Time E-MSDS received the TLE – Nominal and Off-Nominal TLE
	  o Generation Date/Time from filename – Contingency TLE
	• Effectivity Start – FOC A
	  o Nominal & Off-Nominal TLE – Date in TLE filename received from KSAT ; Time – 000000Z
	  o Contingency TLE – Epoch Date/Time from filename
	• Effectivity End - ee00000000000000Z
	• Version
	  o Version number in TLE filename received from KSAT – Nominal and Off-Nominal only

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	o Contingency TLE does not have a version number, and so follows the CDFCB-X Vol I convention for this case. • Origin – ksat • Origin Domain – ops for Operations, variable for non-operations • Destination – noaa • Destination Domain – ops for Operations, variable for non-operations • Extension - .txt
File Size	142 bytes file per satellite
File Format Type	ASCII
Production Frequency	One file per spacecraft, once per day Occasional additional files if maneuvers or contingency situations arise.
Data Content and Data Format	The TLE data file is an ASCII formatted file containing two records each with a 2 byte end of record carriage return and line feed. The format is the standard North American Aerospace Defense Command (NORAD) two-line element set consistent with the SGP4 propagation method. The descriptions of both lines are defined in Table 3.5-1, TLE Data Line One Format, and Table 3.5-2, TLE Data Line Two Format.

Table 3.5-1, TLE Data Line One Format

Column	Length (Bytes)	Data Type	Range of Values	Units	Comments
01	1	String	1	N/A	Line Number of Element Data
02	1	String	White Space	N/A	Separator
03-07	5	String	00000-99999	N/A	Identifies the NORAD Satellite Catalog Number (not assigned until launch): Examples: For NPP: 37849 (already assigned) For JPSS N01: 11111 (prelaunch placeholder value) For JPSS N02: 22222 (prelaunch placeholder value) For GCOM-W1: 33333 (prelaunch placeholder value)
08	1	String	Any valid ASCII Character	N/A	Classification (‘U’ for unclassified)
09	1	String	White Space	N/A	Separator
10-11	2	String	00-99	N/A	International Designator (Last two digits of launch year)
12-14	3	String	000-999	N/A	International Designator (Launch number of the year)
15-17	3	String	Any valid ASCII Character	N/A	International Designator (Piece of the launch)
18	1	String	White Space	N/A	Separator
19-20	2	String	00-99	N/A	Epoch Year (Last two digits of year)
21-32	12	String	000000000000-999999999999	N/A	Epoch (Day of the year and fractional portion of the day)
33	1	String	White Space	N/A	Separator
34-43	10	String	Not Restricted	Revolutions per day^2	First Time Derivative of the Mean Motion Divided by Two – Column 35 is decimal point.
44	1	String	White Space	N/A	Separator
45-52	8	String	Not Restricted	Revolutions per day^3	Second Time Derivative of Mean Motion Divided by Six (decimal point assumed)

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Column	Length (Bytes)	Data Type	Range of Values	Units	Comments
53	1	String	White Space	N/A	Separator
54-61	8	String	Not Restricted	$(\text{Earth Radii})^{-1}$	BSTAR drag term (decimal point assumed)
62	1	String	White Space	N/A	Separator
63	1	String	Not Restricted	N/A	Ephemeris type
64	1	String	White Space	N/A	Separator
65-68	4	String	0001-9999	N/A	Element number
69	1	String	Not Restricted	N/A	Checksum (Modulo 10) (Letters, blanks, periods, plus signs = 0; minus signs = 1)

Table 3.5-2, TLE Data Line Two Format

Column	Length (Bytes)	Data Type	Range of Values	Units	Comments
01	1	String	2	N/A	Line Number of Element Data
02	1	String	White Space	N/A	Separator
03-07	5	String	Not Restricted	N/A	Satellite Number (must match line One)
08	1	String	White Space	N/A	Separator
09-16	8	String	000.0000-180.0000	Degrees	Inclination – Column 12 is decimal point
17	1	String	White Space	N/A	Separator
18-25	8	String	000.0000-359.9999	Degrees	Right Ascension of the Ascending Node – Column 21 is decimal point
26	1	String	White Space	N/A	Separator
27-33	7	String	0000010-9500000	N/A	Eccentricity (decimal point assumed between Column 26 and 27)
34	1	String	White Space	N/A	Separator
35-42	8	String	000.0000-359.9999	Degrees	Argument of Perigee – Column 38 is decimal point
43	1	String	White Space	N/A	Separator
44-51	8	String	0.000000-359.9999	Degrees	Mean Anomaly – Column 47 is decimal point
52	1	String	White Space	N/A	Separator
53-63	11	String	Not Restricted	Revolutions per day	Mean Motion – Column 55 is decimal point
64-68	5	String	00000-99999	Revolutions	Revolution number at epoch
69	1	String	0-9	N/A	Checksum (Modulo 10)

3.6 Prediction of Post Maneuver Two Line Element Sets

Data Mnemonic	C3_NU-L00100-101
Description/ Purpose	JPSS generated Prediction of Post-Maneuver TLE sets are pre-maneuver generated predictions of the post-maneuver orbit state. Following a maneuver, Search and Rescue Satellite Aided Tracking (SARSAT) and other authorized users may ingest the appropriate prediction of post-maneuver TLE and, using the SPG4 propagator, may generate position and velocity for the associated satellite over a desired time period. The resultant position and velocity predictions may be used in order to maintain tracking of the spacecraft immediately after a maneuver is complete, until the next TLE is posted.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename– see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	142 bytes file per satellite
File Format Type	ASCII
Production Frequency	Approximately 24 hours prior to a maneuver. This is determined by operations.
Data Content and Data Format	The TLE data file is an ASCII formatted file containing two records. The format is the standard NORAD two-line element set consistent with the SGP4 propagation method. The descriptions of both lines are defined in Table 3.5-1, TLE Data Line One Format and Table 3.5-2, TLE Data Line Two Format.

3.7 Mission Schedule

Data Mnemonic	C3_NU-L00070-070
Description/ Purpose	C3S/Mission Management (MM) provides a Consolidated Mission Schedule for the constellation that is comprised of events and activities and the allocation of activities to resources. It is made available to users of JPSS through Enterprise Management (EM) Web Services. If any of the recipients of the schedule require a mission notice indicating the new schedule has been published, either the requester or the Mission Planner can use the Mission Notice option in the Task Request Form available in the EM Work Request System (WRS) to request the notice. This file is also posted on the E-MSDS.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename – see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	~500 KiB File size can vary, due to dependencies on the number of activities and the number of days provided.
File Format Type	XML
Production Frequency	Nominally published to the EM web page by the Mission Planner every time a S/C, Ground or Sensor schedule is updated and published..
Data Content and Data Format	For details see Table 3.7-1, Mission Schedule Format, Example 3.7-1, XML Schema for Mission Schedules, Example 3.7-2, XML Style Sheet for Mission Schedules, and Appendix A, Example Data Files, for an example data file. For an example of a style sheet for rendering the XML in HTML, see Appendix A

Table 3.7-1, Mission Schedule Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
missionSchedule	N/A	ComplexType	Elements: name startTime stopTime events tasks	N/A	Parent element
name	N/A	String	Not Restricted	N/A	Name of the Mission Schedule
startTime	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	UTC Start time for this data item (Mission Schedule, Task, Event) YYYY-MM-DD HH:MM:SS
stopTime	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	UTC Stop time for this data item YYYY-MM-DD HH:MM:SS
events	N/A	ComplexType	Elements: Event	N/A	Parent element
event	N/A	ComplexType	Elements: eventId startTime stopTime duration eventType sc_gs resource description	N/A	Parent element
eventId	N/A	String	Not Restricted	N/A	Event Id for this particular Event
duration	N/A	String	N/A	Integer	Duration of the Task or Event in minutes
eventType	N/A	String	Not Restricted	N/A	Type of event
sc_gs	N/A	String	Not Restricted	N/A	Spacecraft or ground station identification

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
resource	N/A	String	Not Restricted	N/A	Resource applicable to task or event (e.g., NPP_VIIRS)
description	N/A	String	Not Restricted	N/A	Description of task or event
tasks	N/A	ComplexType	Elements: Task	N/A	Parent element The task element is of type taskType
task	N/A	ComplexType	Elements: taskId startTime stopTime duration taskType sc_gs resource description	N/A	Parent element
taskId	N/A	String	Not Restricted	N/A	Task Id for this particular Task
taskType	N/A	String	Not Restricted	N/A	Type of task

Example 3.7-1, XML Stylesheet for Mission Schedules

```
<?xml version="1.0"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
                              xmlns:date="http://exslt.org/dates-and-times"
                              extension-element-prefixes="date">

<xsl:param name="date:date-time" select="'2000-01-01T00:00:00Z'" />

<date:month-lengths>
  <date:month>31</date:month>
  <date:month>28</date:month>
  <date:month>31</date:month>
  <date:month>30</date:month>
  <date:month>31</date:month>
  <date:month>30</date:month>
  <date:month>31</date:month>
  <date:month>31</date:month>
  <date:month>30</date:month>
  <date:month>31</date:month>
  <date:month>30</date:month>
  <date:month>31</date:month>
</date:month-lengths>

<date:days>
  <date:day abbr="Sun">Sunday</date:day>
  <date:day abbr="Mon">Monday</date:day>
  <date:day abbr="Tue">Tuesday</date:day>
  <date:day abbr="Wed">Wednesday</date:day>
  <date:day abbr="Thu">Thursday</date:day>
  <date:day abbr="Fri">Friday</date:day>
  <date:day abbr="Sat">Saturday</date:day>
</date:days>

<date:months>
```

```
  <date:month abbr="Jan">January</date:month>
  <date:month abbr="Feb">February</date:month>
  <date:month abbr="Mar">March</date:month>
  <date:month abbr="Apr">April</date:month>
  <date:month abbr="May">May</date:month>
  <date:month abbr="Jun">June</date:month>
  <date:month abbr="Jul">July</date:month>
  <date:month abbr="Aug">August</date:month>
  <date:month abbr="Sep">September</date:month>
  <date:month abbr="Oct">October</date:month>
  <date:month abbr="Nov">November</date:month>
  <date:month abbr="Dec">December</date:month>
</date:months>


<!--  ************** Day Abbreviation Template ****************************** -->

<xsl:template name="date:day-abbreviation">
        <xsl:param name="date-time">
    <xsl:choose>
```

```
<xsl:when test="function-available('date:date-time')">
          <xsl:value-of select="date:date-time()" />
        </xsl:when>
        <xsl:otherwise>
          <xsl:value-of select="$date:date-time" />
        </xsl:otherwise>
      </xsl:choose>
    </xsl:param>
    <xsl:variable name="neg" select="starts-with($date-time, '-')" />
    <xsl:variable name="dt-no-neg">
      <xsl:choose>
        <xsl:when test="$neg or starts-with($date-time, '+')">
          <xsl:value-of select="substring($date-time, 2)" />
        </xsl:when>
        <xsl:otherwise>
          <xsl:value-of select="$date-time" />
        </xsl:otherwise>
      </xsl:choose>
    </xsl:variable>
    <xsl:variable name="dt-no-neg-length" select="string-length($dt-no-neg)" />
    <xsl:variable name="timezone">
      <xsl:choose>
        <xsl:when test="substring($dt-no-neg, $dt-no-neg-length) = 'Z'">Z</xsl:when>
        <xsl:otherwise>
          <xsl:variable name="tz" select="substring($dt-no-neg, $dt-no-neg-length - 5)" />
          <xsl:if test="(substring($tz, 1, 1) = '-' or
                     substring($tz, 1, 1) = '+') and
                    substring($tz, 4, 1) = ':'">
            <xsl:value-of select="$tz" />
          </xsl:if>
        </xsl:otherwise>
      </xsl:choose>
    </xsl:variable>
```

```
<xsl:variable name="day-of-week">
  <xsl:if test="not(string($timezone)) or
            $timezone = 'Z' or
            (substring($timezone, 2, 2) &lt;= 23 and
             substring($timezone, 5, 2) &lt;= 59)">
    <xsl:variable name="dt" select="substring($dt-no-neg, 1, $dt-no-neg-length - string-length($timezone))" />
    <xsl:variable name="dt-length" select="string-length($dt)" />
    <xsl:variable name="year" select="substring($dt, 1, 4)" />
    <xsl:variable name="leap" select="(not($year mod 4) and $year mod 100) or not($year mod 400)" />
    <xsl:variable name="month" select="substring($dt, 6, 2)" />
    <xsl:variable name="day" select="substring($dt, 9, 2)" />
    <xsl:if test="number($year) and
              substring($dt, 5, 1) = '-' and
              $month &lt;= 12 and
              substring($dt, 8, 1) = '-' and
              $day &lt;= 31 and
              ($dt-length = 10 or
               (substring($dt, 11, 1) = 'T' and
                substring($dt, 12, 2) &lt;= 23 and
```

```
                substring($dt, 14, 1) = ':' and
                substring($dt, 15, 2) &lt;= 59 and
                substring($dt, 17, 1) = ':' and
                substring($dt, 18) &lt;= 60))">
        <xsl:variable name="month-days" select="sum(document('')/*/date:month-lengths/date:month[position() &lt; $month])" />
        <xsl:variable name="days" select="$month-days + $day + boolean($leap and $month > 2)" />
        <xsl:variable name="y-1" select="$year - 1" />
        <xsl:value-of select="(($y-1 + floor($y-1 div 4) -
                        floor($y-1 div 100) + floor($y-1 div 400) +
                        $days)
                       mod 7) + 1" />
      </xsl:if>
    </xsl:if>
  </xsl:variable>
  <xsl:value-of select="document('')/*/date:days/date:day[number($day-of-week)]/@abbr" />
</xsl:template>


<!--  **************** Month Abbreviation Template ************************** -->

<xsl:template name="date:month-abbreviation">
        <xsl:param name="date-time">
    <xsl:choose>
      <xsl:when test="function-available('date:date-time')">
        <xsl:value-of select="date:date-time()" />
      </xsl:when>
      <xsl:otherwise>
        <xsl:value-of select="$date:date-time" />
      </xsl:otherwise>
    </xsl:choose>
  </xsl:param>
  <xsl:variable name="neg" select="starts-with($date-time, '-') and
                        not(starts-with($date-time, '--'))" />
```

```
<xsl:variable name="dt-no-neg">
  <xsl:choose>
    <xsl:when test="$neg or starts-with($date-time, '+')">
      <xsl:value-of select="substring($date-time, 2)" />
    </xsl:when>
    <xsl:otherwise>
      <xsl:value-of select="$date-time" />
    </xsl:otherwise>
  </xsl:choose>
</xsl:variable>
<xsl:variable name="dt-no-neg-length" select="string-length($dt-no-neg)" />
<xsl:variable name="timezone">
  <xsl:choose>
    <xsl:when test="substring($dt-no-neg, $dt-no-neg-length) = 'Z'">Z</xsl:when>
    <xsl:otherwise>
```

```
<xsl:variable name="tz" select="substring($dt-no-neg, $dt-no-neg-length - 5)" />
        <xsl:if test="(substring($tz, 1, 1) = '-' or
                    substring($tz, 1, 1) = '+') and
                   substring($tz, 4, 1) = ':'">
          <xsl:value-of select="$tz" />
        </xsl:if>
      </xsl:otherwise>
    </xsl:choose>
  </xsl:variable>
  <xsl:variable name="month">
    <xsl:if test="not(string($timezone)) or
              $timezone = 'Z' or
              (substring($timezone, 2, 2) &lt;= 23 and
               substring($timezone, 5, 2) &lt;= 59)">
      <xsl:variable name="dt" select="substring($dt-no-neg, 1, $dt-no-neg-length - string-length($timezone))" />
      <xsl:variable name="dt-length" select="string-length($dt)" />
      <xsl:choose>
        <xsl:when test="substring($dt, 1, 2) = '--' and
                  substring($dt, 3, 2) &lt;= 12 and
                  substring($dt, 5, 1) = '-' and
                  (substring($dt, 6) = '-' or
                   ($dt-length = 7 and
                    substring($dt, 6) &lt;= 31))">
          <xsl:value-of select="substring($dt, 3, 2)" />
        </xsl:when>
        <xsl:when test="number(substring($dt, 1, 4)) and
                  substring($dt, 5, 1) = '-' and
                  substring($dt, 6, 2) &lt;= 12 and
                  ($dt-length = 7 or
                   (substring($dt, 8, 1) = '-' and
                    substring($dt, 9, 2) &lt;= 31 and
                    ($dt-length = 10 or
                     (substring($dt, 11, 1) = 'T' and
```

```
                    substring($dt, 12, 2) &lt;= 23 and
                    substring($dt, 14, 1) = ':' and
                    substring($dt, 15, 2) &lt;= 59 and
                    substring($dt, 17, 1) = ':' and
                    substring($dt, 18) &lt;= 60))))">
          <xsl:value-of select="substring($dt, 6, 2)" />
        </xsl:when>
      </xsl:choose>
    </xsl:if>
  </xsl:variable>
  <xsl:value-of select="document(')/*/date:months/date:month[number($month)]/@abbr" />
</xsl:template>


<!--  **************** Format Date Template ****************************** -->

<xsl:template name="formatDate">
   <xsl:param name="date"/>
   <xsl:variable name="dateVar" select="concat(substring($date,7,4), '-',
                                substring($date,4,2), '-',
                                substring($date,1,2))"/>
```

```
   <xsl:variable name="day-of-week">
      <xsl:call-template name="date:day-abbreviation">
         <xsl:with-param name="date-time" select="$dateVar"/>
      </xsl:call-template>
   </xsl:variable>
   <xsl:variable name="month-of-year">
      <xsl:call-template name="date:month-abbreviation">
         <xsl:with-param name="date-time" select="$dateVar"/>
      </xsl:call-template>
   </xsl:variable>
   <xsl:variable name="formattedDate" select="concat($day-of-week, ' ',
                                        $month-of-year, ' ',
                                        substring($date,1,2), ' ',
                                        substring($date,12,8), ' ',
                                        substring($date,7,4), ' ')"/>
   <xsl:value-of select="$formattedDate"/>
</xsl:template>


<!--  **************** Begin XSL Transformation ********************************** -->

<xsl:key name="events-and-tasks" match="event|task" use="/missionSchedule/name"/>

<xsl:template match="/">
  <html>
    <head>
<xsl:for-each select="missionSchedule">
      <title>Summary of schedule <xsl:value-of select="name"/> for
        <xsl:value-of select="startTime"/> to
        <xsl:value-of select="stopTime"/>
      </title>
</xsl:for-each>
```

```
<!--<xsl:for-each select="missionSchedule">
      <title>Summary of schedule <xsl:value-of select="name"/> for
         <xsl:call-template name="formatDate">
            <xsl:with-param name="date" select="startTime"/>
         </xsl:call-template> to
         <xsl:call-template name="formatDate">
            <xsl:with-param name="date" select="stopTime"/>
         </xsl:call-template>
      </title>
</xsl:for-each>-->

   </head>
   <body>
   <center>

<!--<xsl:for-each select="missionSchedule">
   <h2>Summary of schedule <xsl:value-of select="name"/> for
         <xsl:call-template name="formatDate">
            <xsl:with-param name="date" select="startTime"/>
```

```
        </xsl:call-template> to
        <xsl:call-template name="formatDate">
           <xsl:with-param name="date" select="stopTime"/>
        </xsl:call-template>
    </h2><br/>
</xsl:for-each>-->

<xsl:for-each select="missionSchedule">
    <h2>Summary of schedule <xsl:value-of select="name"/> for
      <xsl:value-of select="startTime"/> to
      <xsl:value-of select="stopTime"/>
    </h2><br/>
</xsl:for-each>

      <table border="2" cellpadding="5">
      <tr>
        <th>Id<br/>(Activities in Caps)</th>
        <th>Start Time</th>
        <th>Stop Time</th>
        <th>Duration (min)</th>
        <th>Type</th>
        <th>SC/GS</th>
        <th>Resource</th>
      </tr>

<xsl:for-each select="key('events-and-tasks', /missionSchedule/name)">
   <xsl:sort select="substring(startTime,7,4)"  data-type="number"/> <!-- year -->
   <xsl:sort select="substring(startTime,4,2)"  data-type="number"/> <!-- month  -->
   <xsl:sort select="substring(startTime,1,2)"  data-type="number"/> <!-- day  -->
   <xsl:sort select="substring(startTime,12,2)" data-type="number"/> <!-- hours  -->
   <xsl:sort select="substring(startTime,15,2)" data-type="number"/> <!-- minutes -->
   <xsl:sort select="substring(startTime,18,2)" data-type="number"/> <!-- seconds -->
      <tr>
```

```
<xsl:choose>
  <xsl:when test="count(./taskId) = 1">
    <td><xsl:value-of select="taskId"/></td>
  </xsl:when>
  <xsl:when test="count(./eventId) = 1">
    <td><xsl:value-of select="eventId"/></td>
  </xsl:when>
</xsl:choose>

<!--<td>
   <xsl:call-template name="formatDate">
      <xsl:with-param name="date" select="startTime"/>
   </xsl:call-template>
</td>
<td>
   <xsl:call-template name="formatDate">
      <xsl:with-param name="date" select="stopTime"/>
   </xsl:call-template>
```

```
        </td>-->
        <td>
           <xsl:value-of select="startTime"/>
        </td>
        <td>
           <xsl:value-of select="stopTime"/>
        </td>
        <td><xsl:value-of select="duration"/></td>

        <xsl:choose>
          <xsl:when test="count(./taskType) = 1">
            <td><xsl:value-of select="taskType"/></td>
          </xsl:when>
          <xsl:when test="count(./eventType) = 1">
            <td><xsl:value-of select="eventType"/></td>
          </xsl:when>
        </xsl:choose>

        <td><xsl:for-each select="sc_gs"><xsl:value-of select="."/><br/></xsl:for-each></td>
        <td><xsl:for-each select="resource"><xsl:value-of select="."/><br/></xsl:for-each></td>
      </tr>
</xsl:for-each>
      </table><br/>

    </center>
    </body>
  </html>
</xsl:template>

</xsl:stylesheet>
```

3.8 Look Up Tables (LUT)

The Look Up Tables (LUT) and various Processing Coefficients used in the production of the NPP/JPSS Data Products are documented in the JPSS CDFCB-X Vol. VIII, 474-00001-08.

3.9 Deleted

3.10 Deleted

3.11 Deleted

3.12 Mission Notices Delivered to CLASS

Mission Notices delivered to CLASS by JPSS are provided as Auxiliary Data HDF5 files. For the format and definition of the Mission Notices, see Section 4.15, Mission Notices. The delivery of the Mission Notices via DDS to CLASS is JPSS (Blocks 2 and 3) effectivity only – during NPP (Block 1+) and GCOM GW1, these files are only available via the Work Request System (WRS), the C3S Extranet Web Server, and the E-MSDS as documented in the CIS ICD Volume I.

3.13 Revolution Number

Data Mnemonic	C3_NU-L00030-030
Description/Purpose	The Revolution Number file provides users with predictions of JPSS revolution numbers. Satellite revolutions are defined as incrementing at each successive ascending node crossing, starting with revolution "one" at the first ascending node crossing after launch. The Revolution Number file will provide predictions for up to 90 days. This information is always predictive and is not updated with actual data. Revolution Number files will not be updated out of cycle. In an anomalous situation, for instance, if there is an error in a Revolution Number file, any out-of-cycle additions or updates to the web server files will be procedurally announced (notification by mission notice, e-mail, phone, etc.).
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, Section 3.4 See the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names
File Size	Maximum file size 150 KiB
File Format Type	Text-formatted ASCII file
Production Frequency	Daily, one file per satellite
Data Format and Data Structure	See Table 3.13-1, Revolution Number, for details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 3.13-1, Revolution Number

Column	Length (Bytes)	Data Type	Range of Values	Units	Comments
01-10	10	String	NPP N01 N02	N/A	Vehicle Identifier
11	1	String	Blank	N/A	Separator
12-15	4	String	1958 - 2137	year	4 digit Year – Time of Ascending Node Crossing
16	1	String	Blank	N/A	Separator
17-18	2	String	01-12	month	2 digit Month – Time of Ascending Node Crossing
19	1	String	Blank	N/A	Separator
20-21	2	String	01-31	day	Day – Time of Ascending Node Crossing
22	1	String	Blank	N/A	Separator
23-24	2	String	00-23	hour	Hour – Time of Ascending Node Crossing
25	1	String	Blank	N/A	Separator
26-27	2	String	0-59	minute	Minute – Time of Ascending Node Crossing
28	1	String	Blank	N/A	Separator
29-34	6	String	SS (00 – 60) SSS (000 – 999)	second	Second – Time of Ascending Node Crossing SS.SSS Seconds account for leap seconds
35	1	String	Blank	N/A	Separator
36-44	9	String	N/A	rev	Revolution Number Starting at this Time

3.14 Application Packet Files

Data Mnemonic	C3_DP-L20010-001
Description/ Purpose	Application Packet Files are used to transfer collections of Application Packets from the C3S environment to the IDPS Ingest environment. For the C3S implementation, this file contains Extended Application Packets. The process that creates these files does so by creating files based on each Virtual Channel (as designated by the Virtual Channel ID (VCID)). The file is constructed by inserting one binary packet after another. The file is closed/complete when a configurable amount of time has been reached (for example, a 3 second duration), or when the next packet to be written to the file exceeds a configured file size; this size is based on performance and varies by VCID. Upon the closing of one file, another is begun as the data continues to stream in. This file format implementation is used for NPP and JPSS during Blocks 2 and 3 only.
File-Naming Construct	<SSS>_<XXX>_<ZZZ>_<YYYYMMDDHHMMSSMMMuuu>_<YYYYMMDDHHMMSSMMMuuu>_<YYYYMMDDHHMMSSMMMuuu>_<YY>_<VVV>.<EEE> See Table 3.14-1, Application Packet Files Filename Format, for the field definitions.
File Size	Maximum file size is configurable; it is based on optimizing throughput relative to the architecture.
File Format Type	Binary
Production Frequency	Variable, based on downlinked data
Data Format and Data Structure	The Application Packets are concatenated into a single stream of data contained in a binary file.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 3.14-1, Application Packet Files Filename Format

Field Position	Identifier	Description	Applicable Values
1	SSS	Spacecraft ID Identifies the spacecraft for which the data applies. First character is ‘n’ – Spacecraft or ‘s’ – Simulation.	npp n01 n02 s01 s02 …
2	_	Field Separator	‘_’
3	XXX	Session Identifies the session under which this file was created. This will almost always be ops even when the file is written to the Parallel Ops (IDP I&T) domain.	ops – Operations sim – Simulation tst – Test
4	_	Field Separator	‘_’
5	ZZZ	Source This is always dhn for a central.	dhn – Data Handling Node
6	_	Field Separator	‘_’
7	YYYYMMDDHHMMSSMMMuuu	Observation Start (UTC) The date/time of the contained in the secondary header of the first packet in the contained in the data file. The field is in years, months, days, hours, minutes, seconds, milliseconds, and microseconds. Could be 1958-01-01-00-00-00 if no first packet with Secondary Header is received	YYYY=1958-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60
8	_	Field Separator	‘_’

Field Position	Identifier	Description	Applicable Values
9	YYYYMMDDHHMMSSMMMuuu	Observation Stop (UTC) The date/time of the contained in the secondary header of the last packet in the contained in the data file. The field is in years, months, days, hours, minutes, seconds, milliseconds, and microseconds. Could be 1958-01-01-00-00-00 if no first packet with Secondary Header is received	YYYY=1958-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60 MMM=000-999 uuu=000-999
10	_	Field Separator	'_'
11	YYYYMMDDHHMMSSMMMuuu	Ground Timestamp (UTC) The date/time that DHN/SPE creates the last packet in the file. The field is in years, months, days, hours, minutes, seconds, milliseconds, and microseconds. This is guaranteed to be unique for each file within a spacecraft VCID stream.	YYYY=1958-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60 MMM=000-999 uuu=000-999
12	_	Field Separator	'_'
13	YY	Transmission Type Identifies data type	First character is always 't' f – First Copy SMD r – Retransmit SMD p – Playback TLM t – Realtime TLM
14	_	Field Separator	'_'
15	VVV	VCID ASCII representation of the VCID.	First character is always 'v' 00 through 63
16	.	Field Separator	'.'

Field Position	Identifier	Description	Applicable Values
17	EEE	Extension The file type. This is always ‘eap’ for dhn at a central.	eap – Extended Application Packet ap – Application Packet

4.0 REPORTS AND MESSAGES DATA FORMATS

All reports and messages generated by JPSS and delivered to the end user are documented in the following section.

4.1 External Mission Support Data Server Data List

Data Mnemonic	DP_NU-LM2040-000
Description/ Purpose	The E-MSDS Data List is a listing of all of the data available on the E-MSDS Server. This file is overwritten each time the file is generated.
File-Naming Construct	MSDS_Datalist.txt
File Size	Variable, dependent upon the number of files in the list. Minimum of 42 bytes
File Format Type	ASCII
Production Frequency	The value is dependent upon the server. At minimum, it can be set to 1 second, with a maximum of 1 day (24 hours). This is set, nominally, to be produced every 60 seconds
Data Content and Data Format	The listing of files and directories is displayed by annotating the directory followed by a list of its contents (indented by a tab). The listings are shown recursively. See Table 4.1-1, E-MSDS Data List Format, for details, and Appendix A, Example Data Files for an example.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.1-1, E-MSDS Data List Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Timestamp	N/A	String	Generated yyyy-mm-dd hh:mm:ss.ssssssz	N/A	Timestamp giving generation time of list
Directory	N/A	String	dir-name:	N/A	Name of directory, contents are shown below
Contents	N/A	String	<tab>filename|dirname	N/A	Name of file or directory within the current directory listing

4.2 Data Delivery Report

Data Mnemonic	DP_NU-L00050-000
Description/ Purpose	Data Delivery Reports (DDR) are XML formatted files that describe the data records that have been requested to be sent to a particular destination. These files are a way for the user to verify the files that IDPS has transmitted to each destination. There is one DDR delivered to each destination every configurable number of minutes or after a configurable number of data products are delivered. The Cyclic Redundancy Check – 32 bit (CRC-32) Checksum is used to calculate the checksum of each file indicated in the DDR. The CRC-32 checksum calculates a checksum based on a cyclic redundancy check as described in ISO 3309. The resulting checksum is four octets in length and is Big Endian ordered.
File-Naming Construct	See the File-Naming Convention for IDPS Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4
File Size	0 files annotated = ~348 bytes 1 file annotated = ~543 bytes Increment size of ~196 bytes per each additional file annotated
File Format Type	XML
Production Frequency	This file is delivered to each destination after a configurable number of files have been delivered or a configurable time period has passed, or whichever comes first. The delivery frequency is a configuration of the IDP. 1 <= Number of Files <= Configurable Number (of files) 60 min <= Time Period <= Configurable Number (of minutes)
Data Content and Data Format	See Table 4.2-1, Data Delivery Report Format, for details and Example 4.2-1, Data Delivery Report XML Schema, for the xml schema. Appendix A, Example Data Files, contains examples of DDRs. The CRC-32 algorithm used is provided by the following library: C++ Version 1.2.3 (library: libz.a)

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.2-1, Data Delivery Report Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
DDR	N/A	complexType	Elements: start_dateTime stop_dateTime files	N/A	Parent element for the DDRs
start_dateTime	N/A	String	YYYYMMDD HHMMSSZ	Date	UTC Time format without delimiters See the JPSS CDFCB-X Vol. I, 474-00001-01 Section 3 for details These times indicate the duration of time this report covers
stop_dateTime	N/A	String	YYYYMMDD HHMMSSZ	Date	UTC Time format without Delimiters. See the JPSS CDFCB-X Vol. I, 474-00001-01 Section 3 for details These times indicate the duration of time this report covers.
files	N/A	complexType	Elements: num_files file	N/A	Contains the list of included files
num_files	N/A	Integer	0 – 150	N/A	Indicates the number of data products summarized in the report Also indicates the number of times the following remaining items are repeated

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
file	N/A	complexType	Elements: requestID transferID urID origin domain destination checksum filename size status timestamp	N/A	Repeats for each file
requestID	N/A	String	XXXXXXXXXXXX	N/A	A unique numeric string used to identify the request The X's are digits from 0-9
transferID	N/A	String	Up to 32-characters	N/A	The unique identifier for all files transferred from IDPS/DDS to any destination.
urID	N/A	String	A unique identifier consisting of a 32-character string.	N/A	The unique identifier for JPSS Data Product granules, Auxiliary files, and Ancillary files. Provided in data product metadata as N_Reference_ID
origin	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, Section 3 for full list of applicable Origins	N/A	Indicates the origin location of the files that were transferred
domain	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, Section 3 for full list of applicable Domains	N/A	Indicates the domain location of where the files were transferred
destination	N/A	String	Destination as specified in the DDR request	N/A	Provides the destination (URL/path) of the files that the record applies to

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
checksum	N/A	Long	Unsigned long >= 0	N/A	This is a CRC32 File Checksum value Repeats for each file
filename	N/A	String	As applies to naming convention	N/A	Repeats for each file
size	N/A	Long	Unsigned long > 0	Bytes	Repeats for each file
status	N/A	String	success failure	N/A	Indicates whether or not the file was successfully transferred to the intended destination. A delivery is not considered a “failure” until the configurable number of retries has been attempted and failed. In this case, a single status entry will indicate the delivery failure.
timestamp	N/A	String	YYYYMMDD HHMMSSZ	Date Time	Repeats for each file

Example 4.2-1, Data Delivery Report XML Schema

```
<?xml version="1.0" encoding="UTF-8" ?>

<xsd:schema xmlns:xsd=http://www.w3.org/2001/XMLSchema>

<xsd:complexType name=”DDR”>
        <xsd:sequence>
                <xsd:element name=”start_dateTime” type=”string” minoccurs=”1”/>
                <xsd:element name=”stop_dateTime” type=”string” minoccurs=”1”/>
                <xsd:element name=”files” type=”files” minoccurs=”1”/>
        </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”files”>
        <xsd:sequence>
                <xsd:element name=”num_files” type=”integer” minoccurs=”1”/>
                <xsd:element name=”file” type=”file” minoccurs=”0”/>
        </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”file”>
  <xsd:sequence>
        <xsd:element name=”requestID” type=”string” minoccurs=”1”/>
                <xsd:element name=”transferID” type=”string” minoccurs=”1”/>
                <xsd:element name=”urID” type=”string” minoccurs=”1”/>
                <xsd:element name=”origin” type=”string” minoccurs=”1”/>
                <xsd:element name=”domain” type=”string” minoccurs=”1”/>
                <xsd:element name=”destination” type=”string” minoccurs=”1”/>
        <xsd:element name=”checksum” type=”xsd:string” minoccurs=”1”/>
        <xsd:element name=”filename” type=”xsd:string” minoccurs=”1”/>
        <xsd:element name=”size” type=”xsd:integer” minoccurs=”1”/>
        <xsd:element name=”status” type=”xsd:string” minoccurs=”1”/>
        <xsd:element name=”timestamp” type=”xsd:string” minoccurs=”1”/>
  </xsd:sequence>
```

```
</xsd:complexType>
</xsd:schema>

<!--// DTD //-->

<?xml version="1.0" encoding="UTF-8" ?>
<!--
    Data Delivery Report DTD/schema file.
-->
        <!ELEMENT DDR (start_dateTime, stop_dateTime, files ) >
<!ELEMENT start_dateTime ( #PCDATA ) >
<!ELEMENT stop_dateTime ( #PCDATA ) >
```

```
<!ELEMENT files ( num_files, file* ) >
<!ELEMENT file ( requestID, transferID, urID, checksum, filename, size, status, timestamp ) >
<!ELEMENT requestID ( #PCDATA ) >
<!ELEMENT transferID ( #PCDATA ) >
<!ELEMENT urID ( #PCDATA ) >
<!ELEMENT origin ( #PCDATA ) >
<!ELEMENT domain ( #PCDATA ) >
<!ELEMENT destination ( #PCDATA ) >
<!ELEMENT checksum ( #PCDATA ) >
<!ELEMENT filename ( #PCDATA ) >
<!ELEMENT size (  #PCDATA ) >
<!ELEMENT status ( #PCDATA) >
<!ELEMENT timestamp ( #PCDATA ) >
```

4.3 Deleted

4.4 Data Quality Monitoring Repository Reports

Data Mnemonic	DP_NU-L00080-002
Description/ Purpose	IDPS/DQM provides the capability to schedule and execute procedures and perform evaluation and trend assessment of parameters included in the NPP/JPSS Data Products. These actions may be initiated at a specified time, upon receipt of relevant datasets (periodically), or on an ad hoc basis. The DQM Repository Report is a textual report listing the contents of the DQM Repository.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename– see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names. Image/graphics files accompanying the HTML are also named using the Auxiliary File-Naming Convention, however, the Collection Short Name is based on the type of plot (e.g., DQM_Image). The version field contains uniquely identifying information (e.g., time, Product ID, field name, etc.). A file containing the settings used in the report is named procedure_<timestamp>.txt
File Size	Varies (10 MiB maximum)
File Format Type	HTML. These reports may include data files of text, graphical plots, and tabular data that the information provided. Graphical formats include TIFF, GIF, PNG, BMP, PPM, or SRF.
Production Frequency	As required
Data Content and Data Format	See Table 4.4-1, Data Quality Monitoring Repository Reports Format, for details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.4-1, Data Quality Monitoring Repository Reports Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
DQM Repository Report	N/A	String	Variable	N/A	The heading field describing the log information Example: DQM Repository Report - Unit Test
Timestamp	N/A	String	YYYYMMDD HH:MM:SS	Date – Time	Provides the date and time (UTC) that the report was generated Example: 20050124 17:31:47
Entry Name	N/A	String	Variable	N/A	Column containing the names of the entries stored in the repository, names are entry dependent – relevant by row Example: ProcessingCoefTable
File Data Type	N/A	String	Variable	N/A	Column containing the type of information contained in the entries stored in the repository – relevant by row Example: Processing Coefficient Table
Spacecraft	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, for spacecraft identifiers	N/A	Column containing the spacecraft identifier related to the entry – relevant by row Example: N01
Sensor	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, for sensor identifiers	N/A	Column containing the sensor identifier related to the entry – relevant by row Example: VIIRS
Category	N/A	String	Variable	N/A	Column containing the category related to the entry – relevant by row Example: Environmental Data Record

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Product	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, for CollectionShortNames for the JPSS Data Products	N/A	Column containing the product name related to the entry – relevant by row Example: VIIRS-SST-EDR
Version	N/A	Integer	Integer greater than or equal to 0	N/A	Column containing the version number of the entry – relevant by row Example: 34
Site	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, for Origin Identifiers	N/A	Column containing the site that originated the entry – relevant by row Example: NOAA
Domain	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, for domain identifiers	N/A	Column containing the domain that originated the entry – relevant by row Example: Ops
Controlled	N/A	String	true false	N/A	Column containing a boolean value indicating if the entry is controlled or not – relevant by row Example: true
PRID	N/A	Integer	Integer greater than or equal to 0	N/A	Column of process IDs that the message(s) relate to – relevant by row Example: 0
Add Date	N/A	String	YYYYMMDD HH:MM:SS	Date – Time	Column of timestamps (UTC) which provide the date time that the entry was added to the repository – relevant by row Example: 20050124 17:31:47

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Archive/Expiration Date	N/A	String	* YYYYMMDD HH:MM:SS	Date – Time	Column containing the timestamp (UTC) for when the entry is to be removed from the repository. An '*' indicates that there is no expiration date of the entry – relevant by row Example: 20050124 17:31:47
Base Line	N/A	String	true false	N/A	Column indicating if the entry is a part of the baseline data or not – relevant by row Example: true
Archived	N/A	String	true false	N/A	Column indicating if the entry is stored in the repository for archival purposes – false is an indication of a temporary file and have an expiration date associated with it – relevant by row Example: false
Description	N/A	String	Variable	N/A	Column containing a detailed description of the entry – relevant by row Example: This file contains the processing coefficient table necessary to produce the VIIRS SST EDR
Path In Repository	N/A	String	Valid file server path	N/A	Column indicating the path to the entry in the repository – relevant by row Example: H:\repository\contents\1106878152133
Size	N/A	Integer	Integer greater than 0	N/A	Column indicating the size of the file for the related entry – relevant by row Example: 54

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Trending Information	N/A	String	Field contains a comma separated list of Name: Value pairs List contains: Trend File Data Type Trend Mode Type Trend Product Short Name Trend Spacecraft Trend Field Names Trend Latitudes Trend Longitudes Trend Orbits Trend Times	N/A	Column which provides trending information (when applicable) for the associated entry – relevant by row Example: **Trend File Data Type:** Tab Delimited Input File , **Trend Mode Type:** Ops , **Trend Product Short Name:** VIIRS-SST-EDR , **Trend Spacecraft:** DrakeOrbiter , **Trend Field Names:** Skin Bulk , **Trend Latitudes:** 0.0 90.0 , **Trend Longitudes:** 180.0 60.3
Trend File Data Type	N/A	String	Variable	N/A	Contained in Trending Information field – provides the type of data contained in the report, space separated list of values Example: Tab Delimited Input File
Trend Mode Type	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, for the list of domain types	N/A	Contained in the Trending Information field – provides the domain (or mode) for which the trend information is relevant, space separated list of values Example: Ops
Trend Product Short Name	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, for CollectionShortNames for the JPSS Data Products	N/A	Contained in the Trending Information field – provides the product short names for which the trend information is relevant, space separated list of values Example: VIIRS-SST-EDR

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Trend Spacecraft	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, for the spacecraft identifiers	N/A	Contained in the Trending Information field – provides the spacecraft that the trend information is relevant to, space separated list of values Example: N01
Trend Field Names	N/A	String	Variable – JPSS Data Product dependant	N/A	Contained in the Trending Information field – provides the field names available in the relevant trend report, space separated list of values Example: Skin Bulk
Trend Latitudes	N/A	String	-90.0 to 90.0	Degrees	Contained in the Trending Information field – provides the latitudes available in the relevant trend report, space separated list of values Example: 0.0 90.0
Trend Longitudes	N/A	String	-180.0 to 180.0	Degrees	Contained in the Trending Information field – provides the longitudes available in the relevant trend report, space separated list of values Example: 180.0 60.3
Trend Orbits	N/A	String	Variable	N/A	Contained in the Trending Information field – provides the orbit number relevant to the entries in the relevant trend report, element provided only when applicable Example: 55 66
Trend Times	N/A	String	YYYYMMDD HH:MM:SS	Date – Time with time zone	Contained in the Trending Information field – provides the timestamp (UTC) relevant to the entries in the relevant trend report, element provided only when applicable Example: 20050124 17:31:47

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4.5 Data Quality Monitoring Statistical Reports

Data Mnemonic	DP_NU-L00080-003
Description/ Purpose	IDPS/DQM provides the capability to schedule and execute procedures and perform evaluation and trend assessment of parameters included in the JPSS Data Products. These actions may be initiated at a specified time, upon receipt of relevant datasets (periodically), or on an ad hoc basis. The DQM Statistics Report is an HTML formatted report of six statistical parameters (max, min, mean, standard deviation, kurtosis, and skew) over the set of all pixels for each of the requested parameters. The Upper Left and Lower Right Latitude/Longitude information provided in the report allow DQM to specify the bounding coordinates for the area of interest. This area may contain a single granule or several granules which allows DQM to sub-select pixels associated with an in-situ truth data site. These reports may include data files of text, graphical plots, and tabular data that the information provided.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename – see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names. Image/graphics files accompanying the HTML are also named using the Auxiliary File-Naming Convention, however, the Collection Short Name is based on the type of plot (e.g., DQM_Image). The version field contains uniquely identifying information (e.g., time, Product ID, field name, etc.). A file containing the settings used in the report is named procedure_<timestamp>.txt
File Size	Varies (10 MiB maximum)
File Format Type	HTML
Production Frequency	As required
Data Content and Data Format	See Table 4.5-1, Data Quality Monitoring Statistical Reports Format, for details.

Table 4.5-1, Data Quality Monitoring Statistical Reports Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Statistics Report	N/A	String	Variable	N/A	The heading field describing the log information Example: Statistics Report - UnitTest
Timestamp	N/A	String	YYYYMMDD HH:MM:SS	Date – Time with time zone	Provides the date and time (UTC) that the report was generated Example: 20050124 17:31:47
Data Source	N/A	String	Variable	N/A	Provides the name of the source of the information for the statistics provided in the report Example:
Upper Left Lat/Lon	N/A	String	-90.0 to 90.0 -180.0 to 180.0	N/A	Provides the upper left latitude and longitude values associated with the product statistics Example: Upper Left Lat/Lon: (0.0000, 131.0000)
Lower Right Lat/Lon	N/A	String	-90.0 to 90.0 -180.0 to 180.0	N/A	Provides the lower right latitude and longitude values associated with the product statistics Example: Lower Right Lat/Lon: (0.1000, 140.0000)
Num Granules	N/A	Integer	Integer greater than 0	N/A	The number of granules included in the measurement statistics Example: 1
Start Time	N/A	String	YYYYMMDD HH:MM:SS.ZZZ	Date – Time	The start time (UTC) that the statistics are effective for Example: 20050124 17:31:47.669

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
End Time	N/A	String	YYYYMMDD HH:MM:SS.ZZZ	Date – Time	The end time (UTC) that the statistics are effective for Example: 20050124 17:35:11.195
Field	N/A	String	Variable	N/A	This field is repeated for each field contained in the report Example: Field: Skin
Num Pts	N/A	Integer	Integer greater than or equal to 0	N/A	This field is repeated for each field contained in the report Example: Num Pts: 16800
Max (units)	N/A	String/Real	(units) is a string that indicates units for the following Max value, which is a real number with a max and min range that depends on (units). For example, greater than equal to 0.0 if (units) is deg K, greater than -273.16 if (units is deg C), etc.	Specified in name	This field is repeated for each field contained in the report Example: Max (deg C): 290.0115
Max Location	N/A	String	(-90.0000 to 90.0000 -180.0000 to 180.0000)	Degrees	This field is repeated for each field contained in the report Example: Max Location: (0.0975, 131.0050)

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Min (units)	N/A	String/Real	(units) is a string that indicates units for the following Min value, which is a real number with a max and min range that depends on (units). For example, greater than equal to 0.0 if (units) is deg K, greater than -273.16 if (units is deg C), etc.	Specified in name	This field is repeated for each field contained in the report Example: Min (deg C): 0.0000
Min Location	N/A	String	(-90.0000 to 90.0000 -180.0000 to 180.0000)	Degrees	This field is repeated for each field contained in the report Example: Min Location: (0.0000, 135.8500)
Mean (units)	N/A	String/Real	(units) is a string that indicates units for the following Mean value, which is a real number with a max and min range that depends on (units). For example, greater than equal to 0.0 if (units) is deg K, greater than -273.16 if (units is deg C), etc	Specified in name	This field is repeated for each field contained in the report Example: Mean (deg C): 289.9829
SD	N/A	Real	Real number greater than or equal to 0	N/A	This field is repeated for each field contained in the report Example: SD: 2.2374
Skew	N/A	Real	Any real number	N/A	This field is repeated for each field contained in the report Example: Skew: -16258.0029

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Kurtosis	N/A	Real	Any real number	N/A	This field is repeated for each field contained in the report Example: Kurtosis: 10548336.0000

4.6 Data Quality Monitoring Trending Reports

Data Mnemonic	DP_NU-L00080-004
Description/ Purpose	IDPS/DQM provides the capability to schedule and execute procedures and perform evaluation and trend assessment of parameters included in the JPSS Data Products. These actions may be initiated at a specified time, upon receipt of relevant datasets (periodically), or on an ad hoc basis. The DQM Trend Report is an HTML formatted report consisting of selected trended items over a specified time. The report may include a textual summary of the requested values as well as line plots of the trended items' statistical values over a specified period of time.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename– see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names. Image/graphics files accompanying the HTML are also named using the Auxiliary File-Naming Convention, however, the Collection Short Name is based on the type of plot (e.g., DQM_Image). The version field contains uniquely identifying information (e.g., time, Product ID, field name, etc.). A file containing the settings used in the report is named procedure_<timestamp>.txt
File Size	Varies (10 MiB maximum)
File Format Type	HTML. These reports may include data files of text, graphical plots, and tabular data that the information provided. Graphical formats are JPEG.
Production Frequency	As required
Data Content and Data Format	See Table 4.6-1, Data Quality Monitoring Trending Reports Format, for details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.6-1, Data Quality Monitoring Trending Reports Format

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Header	Trend Report	N/A	String	Trend Report for <Data Product ID> for Fields <fields>; DQM domain is <domain> Variable	N/A	The heading field describing the trending information reported The data product ID gives the data products that the trend information is relevant to; see CDFCB-X Vol I, Table 3.4.1-1. The fields are a comma separated list of values, dependent on the data product that the trend information is relevant to. Example: Trend Report for VSSTO for Fields Bulk, Skin; DQM domain is Ops
Summary Information	Summary Information	N/A	String	Summary of Field Name <field> Covering Time (UTC) Period From YYYY-MM-DD HH:MM:SS.ZZZ to YYYY-MM-DD HH:MM:SS.ZZZ	N/A	Indicates what the summary information is that follows for the relevant trending information This section and the following elements repeat for each field included in the trend report Example: Summary of Field Name Bulk Covering Time Period From 2005-01-13 12:00:09.890 to 2005-01-13 12:03:02.222
	Date	N/A	String	YYYY-MM-DD HH:MM:SS.ZZZ	Date – Time	Column containing the timestamps (UTC) relating to the information provided in the trending information Specific to field and row relevant Example: 2005-01-13 12:00:09.890

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Upper Left Lat/Lon	N/A	String	-90.0 to 90.0 -180.0 to 180.0	N/A	Provides the upper left latitude and longitude values associated with the product statistics Example: Upper Left Lat/Lon: (-60.1861,-157.872)
	Lower Right Lat/Lon	N/A	String	-90.0 to 90.0 -180.0 to 180.0	N/A	Provides the lower right latitude and longitude values associated with the product statistics Example: Lower Right Lat/Lon: (-75.6989,-78.7334)
	Num Vals	N/A	Integer	Integer greater than or equal to 0	N/A	Column containing the number of values included in the calculation for the corresponding trend information Specific to field and row relevant Example: 1200
	Max	N/A	Real	Any real number	N/A	Column containing the maximum value found in relation to the corresponding entries Specific to field and row relevant Example: 1.5000
	Min	N/A	Real	Any real number	N/A	Column containing the minimum value found in relation to the corresponding entries Specific to field and row relevant Example: 1.1144

	Mean	N/A	Real	Any real number	N/A	Column containing the mean value found in relation to the corresponding entries Specific to field and row relevant Example: 1.4561
	Median	N/A	Real	Any real number	N/A	Column containing the median value found in relation to the corresponding entries Specific to field and row relevant Example: 1.5000
	Stand Dev	N/A	Real	Real number greater than or equal to 0	N/A	Column containing the standard deviation value found in relation to the corresponding entries Specific to field and row relevant Example: 0.0800
	Skew	N/A	Real	Any real number	N/A	Specific to field and row relevant Example: -1.9278
	Kurtosis	N/A	Real	Any real number	N/A	Specific to field and row relevant Example: 2.9103

	N_Granule_ID	15	String	First three characters have allowable values of NPP, N01, N02, or N03. The next 12 characters have allowable values of 1 through 999999999999, although the maximum number will not be achieved during the life of a spacecraft.	N/A	The unique identifier for each RDR granule composed of the concatenation of two components: (1) The three character satellite identifier [alias "Platform_Short_Name"], (2) A zero left filled, 12 character number, specifying the number of tenths of a second since the first ascending node after launch) See CDFCB-X Vol V, Table 4.4-4, Metadata Delivered in JPSS Data Products for details Example: NPP001212126658
	N_Reference_ID	32	String	Any String character set based on name generation.	N/A	The unique identifier for JPSS Data Product granules, Auxiliary files, and Ancillary files. Catalog queries and catalog requests are available via the Graphical User Interface (GUI) and Application Programming Interfaces (API). Authorized Users query the catalog for available deliverable data by specifying the data parameters. The query returns a list of applicable data and provides a Unique Resource Identifier (URID), also known as an N_Reference_ID, for each data item. The requestor uses a URID (available via the query results or existing data product information) to make a catalog request for a specific data item. Catalog requests allow one URID per request. Example: 43132603-11104-9b9dea63-deb2216a

Statistics Information	Statistics	N/A	String	Variable	N/A	Header indicating that the following information provides statistics and line plots of the information provided in the summary Example: Statistics of the 7 Statistic Values
	Statistics Values	N/A	String	Statistics of the set of <stat> values	N/A	Indicates which set (column) of values from the summary is being presented Example: Statistics of the set of maximum values:
	maximum	N/A	Real	Any real number	N/A	Specific to field Example: maximum: 1.5000
	minimum	N/A	Real	Any real number	N/A	Specific to field Example: minimum: 0.3648
	mean	N/A	Real	Any real number	N/A	Specific to field Example: mean: 1.0731
	median	N/A	Real	Any real number	N/A	Specific to field Example: median: 1.0891
	standard deviation	N/A	Real	Real number greater than or equal to 0	N/A	Specific to field Example: standard deviation: 0.27196139790682944
	skew	N/A	Real	Any real number	N/A	Specific to field Example: skew: -0.40556015358070485

	kurtosis	N/A	Real	Any real number	N/A	Specific to field Example: kurtosis: 0.012114494782012208
	Line Plot (graphic)	N/A	JPEG	Based on statistics	N/A	Image line plot of the statistics found – one for each set (column) of statistics calculated Specific to field

4.7 Data Quality Monitoring Messages

Data Mnemonic	DP_NU-L00090-001
Description/ Purpose	DQM Messages are related to the Data Quality Notifications (DQN) and IDPS procedural assessments of selected data against predefined thresholds. These messages may be sent to JPSS Authorized Users in the event that the predefined thresholds are exceeded. The content of the messages is dependent upon the test preformed and the NPP/JPSS Data Products that are evaluated.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename– see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	Varies (100 KiB maximum)
File Format Type	ASCII text
Production Frequency	Dependent on the configuration as defined by the Data Quality Engineer (DQE). Every time a specific type of DQN or internal threshold message occurs, the DQM is configured to notify one of more Authorized Users of this type of notification.
Data Content and Data Format	See Table 4.7-1, Data Quality Monitoring Messages Format, for details. For the possible metadata elements that may be included in message, see the JPSS CDFCB-X Vol. V, 474-00001-05, for the general association of JPSS Data Products and metadata elements, as well as the definitions of the metadata elements. Each metadata element included in the message is provided as name/value pairs, delimited by a single colon. Table 4.7-2, Data Quality Monitoring Messages Metadata Elements, provides a brief list of the metadata elements that are associated with these messages.

Table 4.7-1, Data Quality Monitoring Messages Format

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Header	Data Quality Notification	N/A	String	Data Quality Notification <CollectionShortName> See the JPSS CDFCB-X Vol. I, 474-00001-01, for the list of Collection Short Names for the JPSS Data Products	N/A	Heading which indicates the product that the DQM Message is representing Example: Data Quality Notification for VIIRS-SST-EDR
	Central DQM Report with Time	N/A	String	<Generating Central> DQM <Report Generation Time> For Central identifiers, see the JPSS CDFCB-X Vol. I, 474-00001-01 Report Generation Time Format: YYYYMMDD HH:MM:SS	N/A	This line of the header indicates the originating central for the message and provides a timestamp (UTC) for when the report was created Example: NESDIS DQM 20061121 04:21:14
	Test Type	N/A	String	See valid Test Types in Section 3.4, Data Quality Threshold Tables	N/A	Indicates the type of test performed on the relevant data product – captures the test performed on the data Example: Percentage Greater Than 76
Body	Metadata	N/A	String	Metadata:Key=Value	N/A	Consists of a list of Metadata name:key=value pairs, may contain scalar or multiple values (metadata item dependent – see Table 4.7-2, Data Quality Monitoring Messages Metadata Elements, for a list of the applicable metadata elements. For full descriptions of the metadata elements see the JPSS CDFCB-X Vol. V, 474-00001-05, Section 4) Example: Mission_Name=NPOESS

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	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Footer	Message	N/A	String	Variable	N/A	This is a free-form text message that provides an explanation of the Data Quality Notification that generated the message – captures textual information about the notification received based on the threshold being reported Example: 36 pixels in the granule exceeded the tested threshold.

Table 4.7-2, Data Quality Monitoring Messages Metadata Elements

Element Name	SDR/TDR	EDR/IP/ARP
Instrument_Short_Name	X	X
Mission_Name	X	X
N_Creation_Date	X	X
N_Creation_Time	X	X
N_Dataset_Source	X	X
N_JPSS_Document_Ref	X	X
N_Update_Date	X	X
N_Update_Time	X	X
Platform_Short_Name	X	X
N_Anc_Type_Tasked		X
N_Collection_Short_Name	X	X
N_Dataset_Type_Tag	X	X
N_Processing_Domain	X	X
Operational_Mode	X	X
Beginning_Date	X	X
Beginning_Time	X	X
Ending_Date	X	X
Ending_Time	X	X
G-Ring_Lattitude	X	X
G-Ring_Longitude	X	X
N_Beginning_Orbit_Number	X	X
N_Beginning_Time_IET	X	X
N_Ending_Time_IET	X	X
N_Granule_ID	X	X
N_Granule_Version	X	X
N_Reference_ID	X	X
N_Spacecraft_Manuever	X	X

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4.8 Stored Telemetry Analysis Ad Hoc Telemetry Report

Data Mnemonic	C3_NU-LW2110-000
Description/ Purpose	Stored Telemetry Analysis (STA) Ad Hoc plots and tabular listings are requested using the Intranet or Extranet STA Report Request web interface. Ad Hoc requests can be made at any time. The plots consist of up to eight Last Reported Values (LRVs) in JPEG file format. The tabular listings consist of up to eight LRVs in an ASCII file format.
File-Naming Construct	The file-naming convention for the plot file is: PLT_<yyyy>_<mm>_<dd>_<hh>_<mm>_<ss>_<title>.jpg Example: PLT_2004_02_24_09_48_32_plot1.jpg The file-naming convention for the tabular listing is: PLT_<yyyy>_<mm>_<dd>_<hh>_<mm>_<ss>_<title>.asc Example: PLT_2006_04_27_12_43_15_table1.asc The report title (PLT) is entered by the person making the request.
File Size	250 KiB/report
File Format Type	The format of the plots is JPEG, while the format of the tabular listing is ASCII.
Production Frequency	Upon request
Data Content and Data Format	See Table 4.8-1, STA Ad Hoc Telemetry Header Format (Tabular Listing), and Table 4.8-2, STA Ad Hoc Telemetry Data Format (Tabular Listing), for details.

Table 4.8-1, STA Ad Hoc Telemetry Header Format (Tabular Listing)

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Vehicle ID	3	String	NPP, N01, N02, N03	Text	Vehicle Id for this report
Time	26	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (00-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	Date and time in UTC format that the report was created YYYY-MM-DD HH:MM:SS.SSSSSS
Data Start	26	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (00-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	Start Date and Time in UTC format as specified by the User YYYY-MM-DD HH:MM:SS.SSSSSS

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Data End	26	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (00-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	End Date and Time in UTC format as specified by the User YYYY-MM-DD HH:MM:SS.SSSSSS

Table 4.8-2, STA Ad Hoc Telemetry Data Format (Tabular Listing)

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Time	26	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (00-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	Time stamp in YYYY-MM-DD HH:MM:SS.SSSSSS (Time is the column title)
LRV ID	23	String	Alphanumeric	Text	LRV Mnemonic (This column contains all of the values of the LRV at the times contained in the Time column). This value is determined by the spacecraft command and telemetry database.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4.9 Stored Telemetry Analysis Science Data Segment Telemetry Report

Data Mnemonic	C3_NU-LW2090-000
Description/ Purpose	The STA Science Data Segment (SDS) Telemetry Report is a standing report generated after each satellite contact. This report provides SDS with engineering-converted LRVs required for sensor data processing. This is an NPP Only Report – effective for States 1 and 2
File-Naming Construct	The file-naming convention is: npp_sds_<YYYYMMDD>_ <HHMMSS>_<uuuuuu>.txt The fields are: YYYYMMDD - Year, Month, Day HHMMSS – Hours, Minutes, Seconds uuuuuu – microseconds Example: npp_sds_20041224_092753_437921.txt
File Size	15 MiB/report
File Format Type	ASCII
Production Frequency	After every contact
Data Content and Data Format	See Table 4.9-1, STA SDS Telemetry Report Data Format, for details and Appendix A, Example Data Files, for an example data file.

Table 4.9-1, STA SDS Telemetry Report Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Filename	34	String	<Spacecraft ID>_sds_<YYYYMMDD>_ <HHMMSS>_<uuuuuu>.txt	N/A	Filename of the file This name: value pair is on its own line Example: # Filename: npp_sds_20051018_122607_929153.txt
Entries	1 - 10	Integer	Integer greater than zero	N/A	Number of LRV entries contained in the report This name: value pair is on its own line Example: # Entries: 2027
Time	4	String	Time	N/A	Column heading for LRV Time This is the second column in the table The row containing column headings is prepended with a '#' sign
LRV Time	26	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (0-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds) Encapsulated in double-quotes	Date/Time	Date and time in UTC format YYYY-MM-DD HH:MM:SS.SSSSS Information contained in the Time column – row relevant Example: "2005-09-12 14:43:19.000000"
LRV	3	String	LRV	N/A	Column heading for LRV ID This is the third column in the table

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
LRV ID	23	String	Valid STA SDS LRV ID Values	N/A	LRV mnemonic of the data point – column contains 1 or more LRV entry for each LRV. Information contained in the LRV column – row relevant Example: NBX1PW2
Raw	3	String	Raw	N/A	Column heading for the Raw Data This is the fourth column in the table
Raw Data	8	Unsigned Long-long	0 – 18446744073709551615	N/A	Raw counts of LRV data This data is under the “Raw” column – row relevant Example: 0.000000e+00
Engr	4	String	Engr	N/A	Column heading for the engineering data This is the fifth column of the table
Engr Data	8	String or Double	N/A	N/A	Engineering Converted value of LRV This data is under the “Engr” column – row relevant Example: Off

4.10 Stored Telemetry Analysis State Checking Report

Data Mnemonic	C3_NU-LW2125-000
Description/ Purpose	The STA State Checking Report is a report that is created at some number of predefined intervals, which are defined and configured by the analysts. These intervals are typically once per orbit for the previous orbit's data and once per day for the previous day's data. The State Checking Report identifies periods when a discrete LRV has violated both user-specified and factory-valid states.
File-Naming Construct	There are no variable fields in the filename. The filename is always "Detailed.html".
File Size	5.3 MiB/report
File Format Type	HTML
Production Frequency	User specified interval
Data Content and Data Format	See Table 4.10-1, Stored Telemetry Analysis State Checking Report Format, for details, Appendix A, Example Data Files, for example data files, and Table 4.12-1, STA Trend STA State Checking and STA Limit Checking Format, for header information.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.10-1, Stored Telemetry Analysis State Checking Report Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
State Violations	16	String	N/A	N/A	The header of the first section of the report.
LRV ID	23	String	LRV mnemonic of the data point – column contains 1 or more LRV entry for each LRV.	N/A	Unique LRV mnemonic
Boolean ID	1-256	String	Not Restricted	N/A	Name of Boolean condition used for the state check
Valid State Set	4	Integer	N/A	N/A	The state the LRV should be in Numeric value that corresponds to the Set ID field in the Valid State Sets (third section) portion of the report.
First Violation Time	19	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (0-60)	Date/Time	Time the violation started YYYY-MM-DD HH:MM:SS
Last Violation Time	19	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (0-60)	Date/Time	Time the violation ended YYYY-MM-DD HH:MM:SS
Vio. Time (min)	8	Double	N/A	Minute	This is the amount of time in minutes the LRV was in violation during the time span between the first and last violation times.
% Cov.	8	Double	0 -100	Percent	This is the amount of time data was available for the LRV during the time span between the History Start Time and the History Stop Time.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Boolean Expressions Used	24	String	N/A	N/A	The header of the second section of the report.
Boolean ID	1 – 256	String	Not Restricted	Text	Name of Boolean expression used for the limit check. This Boolean ID corresponds to the Boolean IDs that appears in the Limit Violations (first section) portion of the report.
Expression	Variable	String	N/A	N/A	The expression used to suppress points
Valid State Sets	16	String	N/A	N/A	The header of the third section of the report.
Set ID	4	Integer	N/A	N/A	Numeric value that corresponds to the Valid State Set field in the State Violations (first section) portion of the report.
Valid States	1 - 256	String	N/A	N/A	The valid states assigned to the set ID This data is determined by the spacecraft command and telemetry database.

4.11 Stored Telemetry Analysis Report Request Form

Data Mnemonic	C3_NU-L00060-150
Description/ Purpose	The report request form shown in Table 4.11-1, STA Report Request Form Format, is populated when an JPSS authorized user submits an ad hoc request for a plot or tabular listing. The form is available to JPSS authorized users via the EM web server.
File-Naming Construct	N/A
File Size	3 KiB
File Format Type	Display Form
Production Frequency	Always available
Data Content and Data Format	See Table 4.11-1, STA Report Request Form Format, for details and Appendix A, Example Data Files, for example data files.

Table 4.11-1, STA Report Request Form Format

Field Name	Data Type	Range of Values	Field Type	Comments
TITLE	String	N/A	Text Field	Report name determined by requestor; file length is 1-252 characters This field is required
REPORT TYPE	String	Plot tabular (default: plot)	Drop Down	This field is required
GRAPH STYLE	String	Stacked YT Step Multi YT Step (default: Stacked YT Step)	Drop Down	This field is required if the report type is plot.
VEHICLE ID	String	NPP N01 N02 N03 (default: NPP)	Drop Down	Identifies the spacecraft This field is required
START TIME	String	MONTH=Jan-01 thru Dec-12 DAY=01-31 YEAR=2004-2100 HOUR=00-23 MINUTE=00-59 (default: MONTH=Jan-01 DAY=01 YEAR=2004 HOUR=00 MINUTE=00 SECOND=00	Drop Down	Start date and time (UTC) specified by the requestor This field is required

Field Name	Data Type	Range of Values	Field Type	Comments
END TIME	String	MONTH=Jan-01 thru Dec-12 DAY=01-31 YEAR=2004-2100 HOUR=00-23 MINUTE=00-59 SECOND=00-60 (default: MONTH=Jan-01 DAY=01 YEAR=2004 HOUR=00 MINUTE=00 SECOND=00)	Drop Down	End date and time (UTC) specified by the requestor Note: end time must be greater than start time This field is required
CONFIG	String	RP0, RS0, RT0, SP0, SS0, or ST0	Drop Down	ECLIPSE® configuration type, which contains the history data from which STA will create telemetry reports.
CONFIG	String	RP0, RS0, RT0, SP0, SS0, or ST0	Drop Down	ECLIPSE® configuration type, which contains the history data from which STA will create telemetry reports.
ID	String	N/A	Text Field	1 to 8 LRVs may be entered; there are a total of 8 separate LRV fields on the display 10 character max This field is required
ATTR	String	Engr Raw (default: Engr)	Drop Down	Each LRV has this field This field is required if the report type is plot
SCALE	String	Auto Fixed (default: Auto)	Drop Down	Each LRV has this field This field is required if the report type is plot
MIN	Float	N/A	Text Field	Each LRV has this field; this is the minimum Y axis value; used only if scale is fixed This field is required if the report type is plot and the scale is fixed

Field Name	Data Type	Range of Values	Field Type	Comments
MAX	Float	N/A	Text Field	Each LRV has this field; this is the maximum X axis value; used only if scale is fixed This field is required if the report type is plot and the scale is fixed
COLOR	String	Blue Green Cyan Purple Hot-pink Dark-orange Maroon Forest-green Black (default: blue)	Drop Down	Specifies the color used to create the line of the plot This field is required if the report type is plot
SYMBOL	String	None Plus sign Asterisk Period Diamond Triangle Square X (default: none)	Drop Down	Specifies the format of the points on the graph This field is required if the report type is plot
LINE-STYLE	String	Solid Dotted Dashed Dash-dot Dash-dotdotdot Long Dashes None (default: solid)	Drop Down	Specifies the format of the lines of the graph

4.12 Stored Telemetry Analysis Trend Report

Data Mnemonic	C3_NU-LW2120-000
Description/ Purpose	The STA Trend Report is a report that is created at some number of predefined intervals, which are defined and configured by the analysts. These intervals are typically once per orbit for the previous orbit's data and once per day for the previous day's data. The Trend Report contains a list of analyst-defined LRVs and their corresponding minimum, maximum, average, and standard deviation values. This file is overwritten every time it is regenerated.
File-Naming Construct	There are no variable fields in the filename. The filename is always "Detailed.html"
File Size	11.0 MiB
File Format Type	HTML
Production Frequency	User specified interval
Data Content and Data Format	Contains a Header and two Body parts. See Table 4.12-1, STA Trend, State Checking, and Limit Checking Header Format, Table 4.12-2, STA Trend Report Data Format Part 1, and Table 4.12-3, STA Trend Report Data Format Part 2, for details and Appendix A, Example Data Files, for an example data file.

Table 4.12-1, STA Trend, State Checking, and Limit Checking Header Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
User	8	String	Not Restricted	N/A	User id of individual requesting Report
Vehicle	3	String	NPP N01 N02 N03	N/A	Vehicle Id that report is for
Job Type	14	String	Limit Checking State Checking Trend / Statistics	N/A	The type of job being reported
Host	7	String	Not Restricted	N/A	Name of computer/server that was used to create the job.
Run Time	26	Time String Structure	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (00-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	Date and time in UTC format YYYY-MM-DD HH:MM:SS.SSSSSS
End Time	26	Time String Structure	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (00-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	Date and time in UTC format YYYY-MM-DD HH:MM:SS.SSSSSS

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
History Start Time	26	Time String Structure	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (00-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	Date and time in UTC format YYYY-MM-DD HH:MM:SS.SSSSSS
History Stop Time	26	Time String Structure	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (00-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	Date and time in UTC format YYYY-MM-DD HH:MM:SS.SSSSSS
Processed TM Histories Read	Variable	String	Variable	N/A	This is the directory path and name of the Processed Telemetry (PTM) file(s) used as input to generate the report.
Trend File Location	Variable	String	Variable	N/A	This is the directory path to the Trend Data Set that is created or appended to. Note: This header field applied to Trend Reports ONLY

Table 4.12-2, STA Trend Report Data Format Part 1

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Trend/Statistics Details	24	String	N/A	N/A	The header of the first section of the first part of the report.
LRV ID	23	String	Not Restricted	N/A	Unique LRV Mnemonic
# Occurs Processed	4	Integer	0 – n	N/A	Total number of data points in the trend window
# Boolean Points Suppressed	4	Integer	0 – n	N/A	Number of data points that were suppressed by the BOOLEAN condition in the trend window
# Wild Points Suppressed	4	Integer	0 – n	N/A	Number of data points that were suppressed by the wild point condition in the trend window
# Records Created	4	Integer	0 - n	N/A	1, if a trend record was created, otherwise 0
Boolean Expressions Used	24	String	N/A	N/A	The header of the second section of the first part of the report.
Boolean ID	Variable	String	N/A	N/A	The name of the Boolean expression used to suppress points
Expression	Variable	String	N/A	N/A	The expression used to suppress points

Table 4.12-3, STA Trend Report Data Format Part 2

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Summary of Trend Records Created	32	String	N/A	N/A	The header of the second part of the report.
LRV ID	23	String	Not Restricted	N/A	Unique LRV mnemonic
(Window Type)	15	String	Entire Time span, Non-Overlapping, Overlapping	N/A	The window type is located next to the LRV ID; it is enclosed in parenthesis. This field is repeated for each LRV
Time Tag	26	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (0-60) SSS (000 – 999) (milliseconds) SSS (000 – 999) (microseconds)	Date/Time	Midpoint of the specified trend interval YYYY-MM-DD HH:MM:SS.SSSSS This field is repeated for each LRV.
PercentCov	8	Double	0.000 – 100.000	Percent	The ratio of time that the LRV met the trend conditions (Boolean and wild point) during the specified trend interval This field is repeated for each LRV
Min	8	Double	N/A	N/A	Minimum value during the trend period This field is repeated for each LRV
Max	8	Double	N/A	N/A	Maximum value during the trend period This field is repeated for each LRV
Avg	8	Double	N/A	N/A	Average value during the trend period This field is repeated for each LRV
StdDev	8	Double	N/A	N/A	Standard Deviation during the trend period This field is repeated for each LRV

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4.13 Stored Telemetry Analysis Limit Checking Report

Data Mnemonic	C3_NU-LW2100-000
Description/ Purpose	The STA Limit Checking Report is a standing report that is created at some number of predefined intervals, which are defined and configured by the analysts. These intervals are typically once per orbit for the previous orbit's data and once per day for the previous day's data nominally created once per day for the previous day's data. The Limit Check report identifies periods when an analog LRV has violated factory-specified or user-specified limits. The limit type, limit value, maximum violation value, and the total violation time are included in this report.
File-Naming Construct	There are no variable fields in the filename. The filename is always "Detailed.html"
File Size	5.3 MiB/report
File Format Type	HTML
Production Frequency	User specified interval
Data Content and Data Format	Contains a Header and Body. See Table 4.12-1, STA Trend STA State Checking and STA Limit Checking Header Format, and Table 4.13-1, STA Limit Checking Data Format, for details and Appendix A, Example Data Files, for an example data file.

Table 4.13-1, STA Limit Checking Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Limit Violations	16	String	N/A	N/A	The header of the first section of the report.
LRV ID	5 – 11	String	LRV mnemonic of the data point – column contains 1 or more LRV entry for each LRV.	N/A	Unique LRV mnemonic
Boolean ID	1 – 256	String	Not Restricted	Text	Name of Boolean expression used for the limit check
Limit Type	5	String	fCritUp fCritLo fWarnUp fWarnLo aSet1Up aSet1Lo aSet2Up aSet2Lo	Text	Type of limit violated There are limits documented in the spacecraft command and telemetry database and there are also limits created by analysts
Limit Value	8	Double	N/A	N/A	Database or Spacecraft Analyst defined value used for violation comparison
Max. Violation Value	8	Double	N/A	N/A	Maximum value the violation reached
First Violation Time	19	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (0-60)	Date/Time	Time the violation started YYYY-MM-DD HH:MM:SS

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Last Violation Time	19	Time String	YYYY (2005 –2030) MM (01-12) DD (01-31) HH (00-23) MM (00-59) SS (0-60)	Date/Time	Time the violation ended YYYY-MM-DD HH:MM:SS
Vio. Time (min)	8	Double	N/A	Minute	This is the amount of time in minutes the LRV was in violation during the time span between the first and last violation times The time is expressed as a decimal (e.g., 0.557)
% Cov.	8	Double	0 – 100.0	Percent	This is the percentage of time data was available for the LRV during the time span between the History Start Time and the History Stop Time The time is expressed as a decimal (e.g., 99.667)
Boolean Expressions Used	24	String	N/A	N/A	The header of the second section of the report.
Boolean ID	Variable	String	N/A	N/A	This Boolean ID corresponds to the Boolean IDs that appears in the Limit Violations (first section) portion of the report.
Expression	Variable	String	N/A	N/A	The expression used to suppress points

4.14 Kongsberg Satellite Ground Contact Schedule

Data Mnemonic	C3_NU-LW2160-000
Description/ Purpose	Mission Management provides the Ground Contact Schedule (GCS) to Kongsberg Satellite (KSAT) via the JPSS C3S Web Server. KSAT downloads the GCS files for ingest into their system, as described in the JPSS CIS ICD, 474-00002. The schedule includes a list of contact times for all spacecraft in the JPSS constellation.
File-Naming Construct	The file-naming convention is: For State 1: <Spacecraft ID>_<domain>_<type>_<tool>_ <YYYYMMDD>_<HHMMSS>.txt For domain options, see Table 3.4.3-1, C3S Common Filename Fields, JPSS CDFCB-X Vol. I, 474-00001-01. The Spacecraft ID is always “cmn.” The Type field is always “ksat.” The Tool field is always “mms.” Example: cmn_ops_ksat_mms_20041224_113642.txt For States 2 and 3: See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename – see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	12 KiB for NPP and increases to 56 KiB for JPSS
File Format Type	ASCII
Production Frequency	Nominally published on a 10-day schedule every seven days. This allows KSAT to get the whole week at one time, and they should have already seen the first three days to resolve 'early' conflicts. If there are conflicts after the first three days, there is a 3-day window to reschedule and republish a conflict-free schedule covering the same window. Specifically, it is up to operator discretion.
Data Content and Data Format	The GCS format has twelve fields delimited by commas for each record. An end of line character marks the end of each record. See Table 4.14-1, KSAT GCS Format, for details and Appendix A, Example Data Files, for an example data file. Note: This format is dictated by KSAT requirements

Table 4.14-1, KSAT GCS Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Description
Spacecraft	3	String	NPP N01 N02	N/A	Identification mnemonic for this spacecraft
Station	8	String	SVL	N/A	Ground Station Id
Action	3-6	String	ADD DEL MOD	N/A	JPSS expects to use only "ADD"
Start Date	8	String	MM/DD/YY	Date	Start date of contact
Start Day of Year	1-3	Integer	1-366	N/A	Julian day of the contact start date
Start Time	8	String	00:00:00 – 23:59:59	Time	Start time of contact (HH:MM:SS)
End Date	8	String	MM/DD/YY	Date	Stop date of contact
End Day of Year	1-3	Integer	1-366	N/A	Julian day of the contact end date
End Time	8	String	00:00:00 – 23:59:59	Time	End time of contact (HH:MM:SS)
Duration	8	String	00:00:00 – 23:59:59	Time	Duration of contact (HH:MM:SS)
Comment	No Restrictions	String	No Restrictions	N/A	Comment
Orbit Number	1-6	Integer	1- 999999	N/A	Ordinal number of the orbit for this spacecraft, assigned by JPSS

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4.15 Mission Notices

Data Mnemonic	C3_NU-LW2060-000 – Mission Notices C3_NU-LW2060-001 – Mission Notice Email Messages
Description/ Purpose	Mission Notices provide detail of upcoming events such as outages, orbital events, maneuvers, launches, and transition to data denial mode. They identify specific noteworthy mission activities and events. Mission Notices are available via the WRS. They are also posted on the C3S Intranet and Extranet Web Server for viewing by Authorized Users and the I-MSDS for those users that have an interest or need to know about information published in the Mission Notices. Mission Notices are divided into nine categories: 1. Internal 2. For Official Use Only (FOUO) 3. External 4. GCOM (Block 1.2 and beyond) 5. All (Block 1.2 and beyond) 6. MMCS-ALL (Block 1.2.3 and beyond) 7. MMCS-DMSP (Block 1.2.3 and beyond) 8. MMCS-USAP (Block 1.2.3 and beyond) 9. MMCS-EUMETSAT (Block 1.2.3 and beyond) Internal Mission Notices are posted on the C3S Intranet Web Server only and emailed to select internal Authorized Users. These Mission Notices contain information that is not intended for the External Community. FOUO Mission Notices are emailed to select internal Authorized Users. These Mission Notices contain information that is not intended for the External Community. External Mission Notices are posted to both the Internal and External web servers, emailed to the External Community, and posted to the I-MSDS, as requested. GCOM Mission Notices are emailed to the GCOM community and posted to the I-MSDS. Mission Notices with the “All” category are posted to both the Internal and External web servers, are emailed to the External Community and GCOM community, and are posted to the I-MSDS. MMCS Mission Notices (MMCS-ALL, MMCS-DMSP, MMCS-USAP, and MMCS-EUMETSAT) are emailed to the MMCS community. Mission Notice Email Messages requests are only available via the WRS. Email messages provide the Mission Notices as inline text.

File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. Fields: Spacecraft ID: cmn for the NPP SC and gw1 for GW1 SC Effectivity Stop: ee00000000000000Z Version Number: '-' Origin: c3s- Origin Domain: ops Destination: all- Destination Domain: all Extension: Mission Notices posted to the I-MSDS: txt (Block 1.2.3), xml (Block 2.0) Mission Notices posted to the Intranet and Extranet Web Servers: xml (Block 1.2.3 - 2.0) The file-naming construct is N/A for the email messages
File Size	Maximum Size: 2000 Bytes The total size including field names (XML tags for JPSS) should not exceed the maximum.
File Format Type	Block 1.2.3: ASCII– Mission Notices posted to the I-MSDS XML – Mission Notices posted to the Intranet and Extranet Web Servers Block 2.0: XML Note: Mission Notices are posted to the Intranet and Extranet Web Servers and can also be accessed through the Work Request System. File Format is N/A for the email messages.
Production Frequency	As requested
Data Content and Data Format	The format of the Mission Notice Email Messages contains a subject line with the following information: MissionNotice <Distribution><MN_ID><Description Title> Where <Distribution> is only included when a Distribution of GCOM, MMCS-ALL, MMCS-DMSP, MMCS-USAP and MMCS-EUMETSAT is specifically selected. The body of the email message contains the Mission Notice as inline text. For the Block 1.0 format, see Table 4.15-1, Block 1.0 Mission Notices Format. Each field listed occurs on a separate line. For the Block 2.0 Mission Notice file format, see Table 4.15-2, Block 2.0 Mission Notices Format, and Example 4.15-1, Block 2.0 Mission Notices XML Schema, for the XML schema. Appendix A, Example Data Files, contains an example of the Mission

	Notices.

Table 4.15-1, Block 1.0 Mission Notices Format

Field Name	Length (Bytes)	Data Type	Range of Values	Field Type	Comments
Description_Title:	<=80 (< 99 total)	String	Not Restricted	Text Field	Title of mission notice defined by up to 80 characters Example: Description_Title: Updated Mission Information
MN_ID:	8 (15 total)	String	MN000001 – MN999999	String	The unique identifier of the Mission Notice, starting with the 2 character prefix MN and 6 digits for the ID number with leading zeroes when necessary. Example: MN_ID: MN002005
Date_Time:	19 (30 total)	String	YYYY-MM-DD HH:MM:SS	Date/Time	UTC date and time mission notice was last modified Example: Date_Time: 2008-09-29 23:27:47
Mission_Notice_Text:	Varies	String	Not Restricted	Text Field	Contains content of mission notice. The size of the description is limited by the overall maximum size of the notice. Example: Mission_Notice_Text: This is a test.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.15-2, Block 2.0 Mission Notices File Format

Field Name	Length (Bytes)	Data Type	Range of Values	Field Type	Comments
missionNotice	N/A	Complex	Elements: identifier sent msgType scope info affect	N/A	
Identifier	N/A	String	MN000001 – MN999999	String	The unique identifier of the Mission Notice, starting with the 2 character prefix MN and 6 digits for the ID number with leading zeroes when necessary. Example: MN_ID: MN002005
Sent	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	UTC date and time that the mission notice was created
msgType	N/A	String	Alert Update Cancel	Text	The code denoting the nature of the Mission Notice
Scope	N/A	String	Public Private Restricted	Text	The code denoting the intended distribution of the Mission Notice Public = External Private = Internal Restricted = FOUO

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Field Type	Comments
Info	N/A	Complex	Elements: title submitter event urgency effective wr mtr onset expires area description	N/A	Describes an anticipated or actual event in terms of its urgency, effectivity, and description.
Affect	N/A	Complex	Elements: spacecraft sensor product	N/A	Provides a listing of the spacecraft, sensor, and/or products related to the Mission Notice.
Title	N/A	String	Alpha-numeric	Text	Title of mission notice defined by up to 80 characters Example: Updated Mission Information
Submitter	N/A	String	MOT AFWA NESDIS Cal/Val SDS NAVO FNMOC IPO	Text	Optional The name of the group or organization responsible for requesting the Mission Notice

Field Name	Length (Bytes)	Data Type	Range of Values	Field Type	Comments
Event	N/A	String	Maneuver Calibration Processing Ca/Val Availability Other	Text	The type of event the Mission Notice relates to.
Urgency	N/A	String	Immediate Expected Future Past Unknown	Text	The value denoting the urgency of the event contained in the Mission Notice.
Effective	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The effective UTC date and time of the information included in the Mission Notice If this element is not included, the effective time is the same as the date/time of the sent element
Wr	N/A	Complex	Elements: number	N/A	Optional Associated Work Request (WR) Number(s)
Mtr	N/A	Complex	Elements: number	N/A	Optional Associated Mission Tasks Request (MTR) Number(s)
Number	N/A	String	Not Restricted	Text	Repeating Number associated with either a WR or MTR
Onset	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The expected UTC date and time of the beginning of the event included in the Mission Notice
Expires	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The expiry UTC date and time of the information included in the Mission Notice

Field Name	Length (Bytes)	Data Type	Range of Values	Field Type	Comments
Area	N/A	Complex	Elements: areaDesc polygon	N/A	Optional Describes a geographic area to which the <info> in which it appears applies.
Description	N/A	String	Not Restricted	Text	Contains content of mission notice. Size is limited by overall maximum size of Mission Notice.
Spacecraft	N/A	Complex	Elements: name	N/A	Provides the name of the relevant spacecraft(s)
Sensor	N/A	Complex	Elements: name	N/A	Provides the name of the relevant sensor(s)
Product	N/A	Complex	Elements: name type	N/A	Provides the name of the relevant products and/or the type of the relevant products.
Name	N/A	String	spacecraft: NPP N01 N02 GW1 sensor: see the list of sensor short names in the JPSS CDFCB-X Vol. I, 474-00001-01 product: see the list of Collection Short Names (CSN) for the JPSS/NPP Data Products in the JPSS CDFCB-X Vol. I, 474-00001-01	Text	Repeating If name isn't provided for product element then type must be.

Field Name	Length (Bytes)	Data Type	Range of Values	Field Type	Comments
Type	N/A	String	RDR SDR TDR IP RIP ARP EDR GEO	Text	Repeating If type isn't provided for the product element then name must be.
areaDesc	N/A	String	Not restricted	Text	Optional A text description of the affected area.
Polygon	N/A	String	The paired values of points defining a polygon that delineates the affected area of the alert message	Text	Optional Repeating The geographic polygon is represented by a whitespace-delimited list of latitude/longitude coordinate pairs. The first and last pairs of coordinates MUST be the same

Example 4.15-1, Block 2.0 Mission Notices XML Schema

```
<?xml version="1.0" encoding="UTF-8" ?>

<xsd:schema xmlns:xsd=http://www.w3.org/2001/XMLSchema>

<xsd:complexType name=”missionNotice”>
  <xsd:sequence>
    <xsd:element name=”identifier” type=”xsd:string” minoccurs=”1” maxoccurs=”1”/>
    <xsd:element name=”sent” type=”xsd:string” minoccurs=”1” maxoccurs=”1”/>
    <xsd:element name=”msgType” type=”xsd:string” minoccurs=”1” maxoccurs=”1”/>
    <xsd:element name=”scope” type=”xsd:string” minoccurs=”1” maxoccurs=”1”/>
    <xsd:element name=”info” type=”info” minoccurs=”1” maxoccurs=”1”/>
    <xsd:element name=”affect” type=”affect” minoccurs=”1” maxoccurs=”1”/>
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”info”>
  <xsd:sequence>
    <xsd:element name=”title” type=”xsd:string” minoccurs=”1” maxoccurs=”1” />
    <xsd:element name=”submitter” type=”xsd:string” minoccurs=”0” maxoccurs=”1” />
    <xsd:element name=”event” type=”xsd:string” minoccurs=”1” maxoccurs=”1” />
    <xsd:element name=”urgency” type=”xsd:string” minoccurs=”1” maxoccurs=”1” />
    <xsd:element name=”effective” type=”xsd:dateTijme” minoccurs=”0” maxoccurs=”1” />
    <xsd:element name=”wr” type=”requests” minoccurs=”0” maxoccurs=”1” /”>
    <xsd:element name=”mtr” type=”requests” minoccurs=”0” maxoccurs=”1” />
    <xsd:element name=”onset” type=”xsd:dateTime” minoccurs=”0” maxoccurs=”1” />
    <xsd:element name=”expires” type=”xsd:dateTime” minoccurs=”0” maxoccurs=”1” />
    <xsd:element name=”area” type=”area” minoccurs=”0” maxoccurs=”1” />
    <xsd:element name=”description” type=”xsd:string” minoccurs=”1” maxoccurs=”1” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”affect”>
  <xsd:sequence>
    <xsd:element name=”spacecraft” type=”spacecraft” minoccurs=”0” />
    <xsd:element name=”sensor” type=”sensor” minoccurs=”0” />
    <xsd:element name=”product” type=”product” minoccurs=”0” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”spacecraft”>
  <xsd:sequence>
    <xsd:element name=”name” type=”xsd:string” minoccurs=”1” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”sensor”>
  <xsd:sequence>
    <xsd:element name=”name” type=”xsd:string” minoccurs=”1” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”product”>
```

```
  <xsd:sequence>
    <xsd:element name="name" type="xsd:string" minoccurs="0" />
    <xsd:element name="type" type="xsd:string" minoccurs="0" />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="requests">
  <xsd:sequence>
    <xsd:element name="number" type="xsd:string" minoccurs="0" />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="area">
  <xsd:sequence>
    <xsd:element name="areaDesc" type="xsd:string" minoccurs="0" maxoccurs="1" />
    <xsd:element name="polygon" type="xsd:string" minoccurs="0" />
  </xsd:sequence>
</xsd:complexType>

</xsd:schema>

<!--// DTD //-->

<?xml version="1.0" encoding="UTF-8" ?>
<!--
    Data Delivery Report DTD/schema file.
-->
<!ELEMENT missionNotice ( identifier, sent, msgType, scope, info, affect ) >
<!ELEMENT identifier ( #PCDATA ) >
<!ELEMENT sent ( #PCDATA ) >
<!ELEMENT msgType ( #PCDATA ) >
<!ELEMENT scope ( #PCDATA ) >
<!ELEMENT info ( title, submitter?, event, urgency, effective?, wr?, mtr?, onset?, expires?, area?, description ) >
<!ELEMENT affect ( spacecraft?, sensor?, product? ) >
<!ELEMENT title ( #PCDATA ) >
<!ELEMENT submitter ( #PCDATA ) >
<!ELEMENT event ( #PCDATA ) >
<!ELEMENT urgency ( #PCDATA ) >
<!ELEMENT effective ( #PCDATA ) >
<!ELEMENT wr ( number* ) >
<!ELEMENT mtr ( number* ) >
<!ELEMENT number ( #PCDATA ) >
<!ELEMENT onset ( #PCDATA ) >
<!ELEMENT expires ( #PCDATA ) >
<!ELEMENT area ( areaDesc ?, polygon* ) >
<!ELEMENT description ( #PCDATA ) >
<!ELEMENT spacecraft ( name+ ) >
<!ELEMENT sensor ( name+ ) >
<!ELEMENT product ( name*, type* ) >
<!ELEMENT name ( #PCDATA ) >
<!ELEMENT type ( #PCDATA ) >
<!ELEMENT areaDesc ( #PCDATA ) >
<!ELEMENT polygon ( #PCDATA ) >
```

4.16 High Rate Data/Low Rate Data Monitoring Report

Data Mnemonic	C3_NU-LW2080-000
Description/ Purpose	The High Rate Data HRD/ LRD Monitoring (HLM) Report is composed of several parts which focus on content and signal quality of the HRD and LRD downlink. The report contains status on the HRD and LRD receivers, processors, the Vector Signal Analyzer (VSA) and the Digital to Serial interfaces. The report also contains Virtual Channel IDs (VCID) statistics, including the quality of the Application Packet IDs (APID) received during a pass.
File-Naming Construct	HLM_Report_YYYY-MM-DD_HHMMSS.xml
File Size	15 KiB, the file size may vary based on activities
File Format Type	XML
Production Frequency	After each contact.
Data Content and Data Format	See Table 4.16-1, HRD/LRD Monitoring Reporting Format, for data format definition. Example 4.16-1, HRD/LRD Monitoring Report XML Schema provides the XML schema and there is an example file in Appendix A, Example Data Files. For an example of a style sheet for rendering the XML in HTML, see Appendix A

Table 4.16-1, HRD/LRD Monitoring Reporting Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
HLM Report	N/A	complexType	Elements: START_TIME ANTENNA SCID TAG VCIDTAG END_TIME	N/A	
START_TIME	N/A	String	Day Month DD HH:MM:SS.SSS YYYY	Date Time	The UTC start time of the interval being reported Example: Wed Aug 31 10:13:18.659 2005
ANTENNA	N/A	String	SG3 SG4	N/A	The ID for the antenna being reported Example: SG4
SCID	N/A	String	NPP	N/A	Spacecraft ID
TAG	N/A	complexType	Attributes: name Elements: TIMESTAMP DEVICE VALUE	N/A	
VCIDTAG	N/A	complexType	Attributes: name Elements: VCID	N/A	

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
END_TIME	N/A	String	Day Month DD HH:MM:SS.SSS YYYY	Date Time	The stop time of the interval being reported Example: Wed Aug 31 10:13:18.659 2005
Name	N/A	String	For the TAG element possible range of values, see Table 4.16-2, Tag Names and Applicable Values	N/A	For TAG: The reference name of the status is being reported on For VCIDTAG:
TIMESTAMP	N/A	String	Day Month DD HH:MM:SS.SSS YYYY	Date Time	The time that the report was generated Example: Wed Aug 31 10:13:18.659 2005
DEVICE	N/A	String	HLM Receiver Cortex Global HLM Receiver Cortex Demodulator Channel A HLM Receiver Cortex Demodulator Channel B HRD Processor NPP CCSDS HRD Processor NPP Demux VCID 00-31 HRD Agilent 89600 VSA Digital to Serial Interface 1 Digital to Serial Interface 2 HRD Processor NPP VCID 32-63 HRD LRD Processor CCSDS	N/A	The name of the device being reported on.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
VALUE	N/A	String	For the list of applicable values, see Table 4.16-2, Tag Names and Applicable Values	Variable	The possible values of this field are dependent upon the TAG element Some TAG elements do not have any restrictions on the value
VCID	N/A	complexType	Attributes: id count Elements: APID	N/A	
Id	N/A	Integer	For VCID: 0 – 63 For APID: No restrictions	N/A	For VCID: Provides the VCID number For APID: Provides the APID number per VCID
Count	N/A	Integer	No restrictions	N/A	For VCID: Provides the count of individual VCIDs per contact For APID: Provides the count of individual APIDs per contact and VCID
APID	N/A	Integer	Attributes: id	N/A	The APID associated with the VCID

Table 4.16-2, Tag Names and Applicable Values

Name	Applicable Values
Demodulator Status	Status: OK Demodulator not responding
Test Modulator Status	Status: OK Demodulator not responding
Data Processing Status	Status: OK Alarm
Cortex Miscellaneous Alarms	Miscellaneous alarms All bits = 0 : OK Bit 3 = 1 : Demodulator DSP alarm Bit 4-7 = 1 : PCI bus alarm Bit 8 – 17 = 1 : Demodulator HW alarm Bit 18 = 1 : Modulator HW alarm
Carrier PLL status	Status: Acquisition Unlocked Locked
IF level	-128 – 127 dBm
Bit Sync Status	Status: Unlocked Locked
Viterbi Decoder Status	Status: Unlocked Locked
System Health - Power	Status: Okay Failed
System Health - Temperature	Status: Okay Failed
System Health - Fans	Status: Okay Failed
System Health - CPU	Status: Okay Failed
System Health - NIC 1	Status: Okay Failed

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Applicable Values
System Health - NIC 2	Status: Okay Failed
System Health - SW Flash Disk (Disk 1)	Status: Okay Failed
System Health - Hard Disk (Disk 2)	Status: Okay Failed
System Health - IRIG 0	Status: Okay Failed
System Health - Serial 0	Status: Okay Failed
Rec NPP HRD 0 Status	The current state of this recording: Stopped Recording Paused
Demultiplexer Frames Corrected	Number of frames (contain symbol errors) that were successfully corrected by the Frame Reed Solomon decoder: 0 – 2147483647
Demultiplexer Frame Symbol Errors	Number of symbols that were successfully corrected by the Frame Reed Solomon decoder: 0 – 2147483647
Demultiplexer Frames Uncorrected	Number of frames uncorrectable by the Frame Reed Solomon decoder: 0 – 2147483647
Demultiplexer Frames Dropped	Number of frames dropped as a result of uncorrectable Reed Solomon errors or CRC errors: 0 – 2147483647
Calibration Needed	Self-detection that calibration is needed: False True
Data Overload	There may have been undetected overloads even if this variable is false or not present: False True
Data Rate LMP	The rate of the data modulated that is going into the receiver, provided in bits/sec There is no restriction on the range of values
EVM LMP	EVM is the Root Mean Square (RMS) of the error vectors computed and expressed as a percentage of the square root of the mean power of the ideal signal, provided in %rms There is no restriction on the range of values

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Applicable Values
Frequency Center	Provided in Hz There is no restriction on the range of values
IQ Offset LMP	The analyzer compares the unwrapped phase, point-by-point, of the I/Q measured signal with the unwrapped phase of the I/Q reference signal. The analyzer then displays the phase difference between the two signals as the IQ offset, provided in dB There is no restriction on the range of values
Magnitude Error LMP	Compares the difference in magnitude of the I/Q measured signal with the magnitude of the I/Q reference signal, provided in % There is no restriction on the range of values
Phase Error LMP	Phase error is the phase difference between the I/Q reference signal and the I/Q measured signal, provided in degrees There is no restriction on the range of values
Quadrature Error LMP	Quadrature error is due to the I and Q channels of a transmitter not operating precisely at 90 degrees to each other, provided in Hz There is no restriction on the range of values
Received Signal Strength LMP	Band power of signal coming through the block down converter, provided in dBm units There is no restriction on the range of values
Resolution Bandwidth	Determine the resolution bandwidth, in Hertz, of the measurement, provided in Hz There is no restriction on the range of values
Signal To Normalized Noise Ratio LMP	Band power to noise power ratio, provided in dB There is no restriction on the range of values
Power Bandwidth	Provided in Hz, range: 0 – 99999999999999
52 – 53 Spectral Power Last Measured Point	Band Power between frequencies 52 MHz to 53 MHz, provided in dBm
53 – 54 Spectral Power Last Measured Point	Band Power between frequencies 53 MHz to 54 MHz, provided in dBm
54 – 55 Spectral Power Last Measured Point	Band Power between frequencies 54 MHz to 55 MHz, provided in dBm
55 – 56 Spectral Power Last Measured Point	Band Power between frequencies 55 MHz to 56 MHz, provided in dBm
56 – 57 Spectral Power Last Measured Point	Band Power between frequencies 56 MHz to 57 MHz, provided in dBm
57 – 58 Spectral Power Last Measured Point	Band Power between frequencies 57 MHz to 58 MHz, provided in dBm
58 – 59 Spectral Power Last Measured Point	Band Power between frequencies 58 MHz to 59 MHz, provided in dBm
59 – 60 Spectral Power Last Measured Point	Band Power between frequencies 59 MHz to 60 MHz, provided in dBm
60 – 61 Spectral Power Last Measured Point	Band Power between frequencies 60 MHz to 61 MHz, provided in dBm

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Applicable Values
61 – 62 Spectral Power Last Measured Point	Band Power between frequencies 61 MHz to 62 MHz, provided in dBm
62 – 63 Spectral Power Last Measured Point	Band Power between frequencies 62 MHz to 63 MHz, provided in dBm
63 – 64 Spectral Power Last Measured Point	Band Power between frequencies 63 MHz to 64 MHz provided in dBm
64 – 65 Spectral Power Last Measured Point	Band Power between frequencies 64 MHz to 65 MHz provided in dBm
65 – 66 Spectral Power Last Measured Point	Band Power between frequencies 65 MHz to 66 MHz, provided in dBm
66 – 67 Spectral Power Last Measured Point	Band Power between frequencies 66 MHz to 67 MHz, provided in dBm
67 – 68 Spectral Power Last Measured Point	Band Power between frequencies 67 MHz to 68 MHz, provided in dBm
68 – 69 Spectral Power Last Measured Point	Band Power between frequencies 68 MHz to 69 MHz, provided in dBm
69 – 70 Spectral Power Last Measured Point	Band Power between frequencies 69 MHz to 70 MHz, provided in dBm
70 – 71 Spectral Power Last Measured Point	Band Power between frequencies 70 MHz to 71 MHz, provided in dBm
71 – 72 Spectral Power Last Measured Point	Band Power between frequencies 71 MHz to 72 MHz, provided in dBm
72 – 73 Spectral Power Last Measured Point	Band Power between frequencies 72 MHz to 73 MHz, provided in dBm
73 – 74 Spectral Power Last Measured Point	Band Power between frequencies 73 MHz to 74 MHz, provided in dBm
74 – 75 Spectral Power Last Measured Point	Band Power between frequencies 74 MHz to 75 MHz, provided in dBm
75 – 76 Spectral Power Last Measured Point	Band Power between frequencies 75 MHz to 76 MHz, provided in dBm
76 – 77 Spectral Power Last Measured Point	Band Power between frequencies 76 MHz to 77 MHz, provided in dBm
77 – 78 Spectral Power Last Measured Point	Band Power between frequencies 77 MHz to 78 MHz, provided in dBm
78 – 79 Spectral Power Last Measured Point	Band Power between frequencies 78 MHz to 79 MHz, provided in dBm
79 – 80 Spectral Power Last Measured Point	Band Power between frequencies 79 MHz to 80 MHz, provided in dBm
80 – 81 Spectral Power Last Measured Point	Band Power between frequencies 80 MHz to 81 MHz, provided in dBm
81 – 82 Spectral Power Last Measured Point	Band Power between frequencies 81 MHz to 82 MHz, provided in dBm
82 – 83 Spectral Power Last Measured Point	Band Power between frequencies 82 MHz to 83 MHz, provided in dBm

Name	Applicable Values
83 – 84 Spectral Power Last Measured Point	Band Power between frequencies 83 MHz to 84 MHz, provided in dBm
84 – 85 Spectral Power Last Measured Point	Band Power between frequencies 84 MHz to 85 MHz, provided in dBm
85 – 86 Spectral Power Last Measured Point	Band Power between frequencies 85 MHz to 86 MHz, provided in dBm
86 – 87 Spectral Power Last Measured Point	Band Power between frequencies 86 MHz to 87 MHz, provided in dBm
87 – 88 Spectral Power Last Measured Point	Band Power between frequencies 87 MHz to 88 MHz, provided in dBm
10 MHz Distribution Amp HLM Fault	Status: True False
HRD Block Downconverter Fault	Status: True False
Test Block Downconverter Fault	Status: True False
Digital Demod Format	Modulation Format for Agilent VSA Status: QPSK (NPP) SQPSK (JPSS)

Example 4.16-1, HRD/LRD Monitoring Reporting XML Schema

```
<?xml version="1.0" encoding="UTF-8" ?>

<xsd:schema xmlns:xsd=http://www.w3.org/2001/XMLSchema>

<xsd:complexType name=”HLM Report”>
  <xsd:sequence>
    <xsd:element name=”START_TIME” type=”xsd:string” />
    <xsd:element name=”ANTENNA” type=”xsd:string” />
    <xsd:element name=”SCID” type=”xsd:string” />
    <xsd:element name=”TAG” type=”tag” minOccurs=”81” />
    <xsd:element name=”VCIDTAG” type=”vcidtag” />
    <xsd:element name=”END_TIME” type=”xsd:string” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”tag”>
  <xsd:attribute name=”name” type=”xsd:string” />
  <xsd:sequence>
    <xsd:element name=”TIMESTAMP” type=”xsd:string” />
    <xsd:element name=”DEVICE” type=”xsd:string” />
    <xsd:element name=”VALUE” type=”xsd:string” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”vcidtag”>
  <xsd:attribute name=”name” type=”xsd:string” />
  <xsd:sequence>
    <xsd:element name=”VCID” type=”vcid” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”vcid”>
  <xsd:attribute name=”id” type=”xsd:integer” />
  <xsd:attribute name=”count” type=”xsd:integer” />
  <xsd:sequence>
    <xsd:element name=”APID” type=”apid” />
  </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name=”apid” type=”xsd:integer”>
  <xsd:attribute name=”id” type=”xsd:integer” />
</xsd:simpleType>
</xsd:schema>
```


Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

```
<!--// DTD //-->

<?xml version="1.0" encoding="UTF-8" ?>
<!--
    HRD/LRD Monitoring Report DTD/schema file.
-->

<!ELEMENT HLM Report ( START_TIME, ANTENNA, SCID, TAG+, VCIDTAG+,
END_TIME ) >
<!ELEMENT TAG ( TIMESTAMP, DEVICE, VALUE ) >
<!ELEMENT VCIDTAG ( VCID ) >
<!ELEMENT VCID ( APID+ ) >
<!ELEMENT APID ( id ) >
<!ELEMENT START_TIME ( #PCDATA ) >
<!ELEMENT ANTENNA ( #PCDATA ) >
<!ELEMENT SCID ( #PCDATA ) >
<!ELEMENT END_TIME ( #PCDATA ) >
<!ELEMENT TIMESTAMP ( #PCDATA ) >
<!ELEMENT DEVICE ( #PCDATA ) >
<!ELEMENT VALUE ( #PCDATA ) >
<!ELEMENT id ( #PCDATA ) >
```

4.17 System Data Availability Report

Data Mnemonic	C3_NU-L00060-060
Description/ Purpose	Contains counts of the granules produced and calculates the availability percentage of the data delivered / data observed. The IDP at each Central provides information that is consolidated to present a system view of data latency. This information is based on the average latency of the EDR data products per IDP per spacecraft. The C3S Data Monitoring and Retrieval (DMR) provides the Application Packet counts. For GW1 in FOC A, the availability is only based on GW1 RDRs. The Application Packets Counts from C3S will be zero. The requestable reporting period can span up to a year
File-Naming Construct	The HTML file is named default.htm and the directory containing the file is named Availability_YYYYMMDD for JPSS and GCOMAvailability_YYYYMMDD for GCOM.. Two links on the web page provide access to the Availability reports: JPSS Data Accountability Availability Report_20051012 (which links to ../Availability_20051012/default.htm) CGOM Data Accountability Availability Report_20051012 (which links to ../GCOMAvailability_20051012/default.htm)
File Size	For NPP, estimated to be 100 KiB For JPSS, estimated to be 600 KiB
File Format Type	HTML
Production Frequency	Daily report produced daily, all other production on an as requested basis
Data Content and Data Format	See Table 4.17-1, System Data Availability Report Format, for details and Appendix A, Example Data Files, for an example of this report.

Table 4.17-1, System Data Availability Report Format

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Field Defintion
Report Header	Report Title	30	String	GCOM –W Data Availability Report JPSS Data Availability Report	N/A	Title of the report
	Report Period	50	String	MM/DD/YYYY HH:MM:SS - MM/DD/YYYY HH:MM:SS	Date/Time	Unless specified otherwise, the Report Period is pre-defined to cover midnight – midnight for a given date. Date does not contain leading zeroes 3/1/2010 00:00:00 – 3/5/2010 00:00:00
	Spacecraft	3	String	Spacecraft Alphanumeric	N/A	A three character representation for the spacecraft known as the CCSDS Spacecraft ID number. This is denoted in the CCSDS Spacecraft ID list as a hexadecimal number. See the JPSS CDFCB-X Vol. I, 474-00001-01, Appendix D. The table contains both the hex and the conversion to decimal format for convenience.
	Site ID	4	String	AFWA FNMC NAVO NESD	N/A	A four character representation for the site
	Site Name	75	String	Air Force Weather Agency Fleet Numerical Meteorology and Oceanography Center Naval Oceanographic Office (NAVOCEANO) National Environmental Satellite, Data, and Information Service	N/A	

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Field Defintion
Detail Section	Sensor	10	String	SPACECRAFT, Sensor Alphanumeric	N/A	A 10 character representation of the sensor See the JPSS CDFCB-X Vol. I, 474-00001-01, Appendix D
	Observed by C3S	8	Integer	0 – 9,223,372,036,854,775,807	APs	The number of Application Packets (AP) sent to IDPS for APIDs that IDPS uses in RDRs (zero for GCOM FOC A).
	Released for Processing	8	Integer	0 – 9,223,372,036,854,775,807	APs	The number of APs released for processing as reported by IDPS
	< 100% Complete	8	Integer	0 – 9,223,372,036,854,775,807	APs	The number of APs that are less than 100% as reported by IDPS
	Used for Repair	8	Integer	0 – 9,223,372,036,854,775,807	APs	The number of APs used for repair as reported by IDPS
	Availability	4	Real	0 – 100 Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Percent	Availability is the calculation of “Released for Processing” divided by “Observed by C3S” (zero for GCOM FOC A since this value is undefined.)
	# RDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	RDR	The number of Raw Data Records (RDR) generated as reported by IDPS
	# SDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	SDR	The number of SDRs generated as reported by IDPS SDR = Sensor Data Record
	# TDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	TDR	The number of Temperature Data Records (TDR) generated as reported by IDPS TDR = Temperature Data Record
	Official EDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	EDR	The number of Official EDRs Generated as reported by IDPS
	Unofficial EDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	EDR	The number of Unofficial EDRs Generated as reported by IDPS
Totals Line	Observed by C3S	8	Integer	0 – 9,223,372,036,854,775,807	APs	The number of AP sent to IDPS for APIDs that IDPS uses in RDRs (zero for GCOM FOC A)

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Field Defintion
	Released for Processing	8	Integer	0 – 9,223,372,036,854,775,807	APs	Total number of APs released for processing as reported by IDPS
	< 100% Complete	8	Integer	0 – 9,223,372,036,854,775,807	APs	Total number of APs that are less than 100% as reported by IDPS
	Used for Repair	8	Integer	0 – 9,223,372,036,854,775,807	APs	Total number of APs used for repair as reported by IDPS
	Availability	4	Real	0 – 100 Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Percent	Total Availability is the calculation of "Total Released for Processing" divided by "Total Observed by C3S" (zero for GCOM FOC A since this value is undefined.)
	# RDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	RDR	The total number of RDRs generated as reported by IDPS
	# SDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	SDR	The total number of SDRs generated as reported by IDPS
	# TDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	TDR	The total number of TDRs generated as reported by IDPS
	Official EDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	EDR	The total number of Official EDRs Generated as reported by IDPS
	Unofficial EDRs Generated	8	Integer	0 – 9,223,372,036,854,775,807	EDR	The total number of Unofficial EDRs Generated as reported by IDPS

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4.18 System Latency Report

Data Mnemonic	C3_NU-L00080-080
Description/ Purpose	The System Latency Report contains counts for all EDRs generated against the system latency requirements thresholds. The Interface Data Processor (IDP) at each Central provides information that is consolidated to present a system view of data latency for the entire NPP/JPSS constellation, based on the average latency of EDR products per IDP per spacecraft. The end times for System latency calculations in this report are based on the EDR production time plus an average of the measured delivery time (AMDT) for the IDP. The AMDT is computed by summing the time period between EDR production and final EDR delivery time for all Delivered EDRs subject to System latency, and then computing the average per Granule. The AMDT is also adjusted to take into account user specified factors such as: ad hoc requests after processing complete time, multiple granules per package (aggregations), and requested delays for delivery of data. The single AMDT time value for the IDP is used for computing the end times for System latency calculations. See NPOESS System Specification, SY15-0007, Appendix D for the EDR latency performance values, Table 3.2.1.2.9-1, NPOESS Data Products for the list of data products, and the JPSS CDFCB-X Vol. I, Appendix A, for the associated Collection Short Names. Block 1 (NPP Only): The start times for the system latency calculations are based on the beginning of the temporal range of data contained in the first (oldest) RDR used in generating the EDR. Note: latency times computed using this technique are biased high, but the bias is typically less than 3% of the latency requirement. The majority of NPP products have a latency requirement of 140 minutes, and these are listed in the first section of the report (called “Included Products”). Products with latency requirements not equivalent to 140 minutes are listed in the second section of the report (called “Excluded Products”). Blocks 2 and 3: NPP and JPSS: For latency calculations the following formula is used for the starting time: $T_s = T_e + T_d$ Where T_d is an offset that is configurable per sensor suite of products and accounts for different algorithm’s sensor input data prerequisites, and T_e is the ending time of the primary RDR used in generating the EDR. T_e is equivalent to the starting time of the primary RDR (T_p) plus

	the granule duration (ΔT_G): $T_e = T_p + \Delta T_G$ The start times (T_s) are then given as follows: Product□S□ite — Formula VIIRS — $T_s = T_p + \Delta T_G$ + 12 VIIRS scans CrIMSS — $T_s = T_p + \Delta T_G$ + 14 CrIS scans OMPS — $T_s = T_p + \Delta T_G$ ΔT_G is Product Suite specific and can be found in JPSS CDFCB-X Vol. I, Appendix H. The scan rates for the sensors on the NPP Spacecraft are provided in the NPP MDFCB, GSFC 429-05-02-42, and those on the JPSS Spacecraft are documented in the JPSS-1 MDFCB, 472-00251. The requestable reporting period can span up to a year
File-Naming Construct	The HTML file is named default.htm and the directory containing the file is named SystemLatency_YYYYMMDD. The link on the web page is named JPSS Data Accountability System Latency Report_ YYYYMMDD (there is no extension for the link) Example: JPSS Data Accountability System Latency Report_20051010 (which links to ../SystemLatency_20051010/default.htm)
File Size	For each satellite for which statistics are being reported, a daily, text formatted HTML file of approximately 1MiB.
File Format Type	HTML
Production Frequency	Daily report produced daily, all other production on an as requested basis
Data Content and Data Format	The State 1 format is provided in Table 4.18-1, System Latency Report for State 1, and the State 2/3 format is provided in Table 4.18-2, System Latency Report for States 2 and 3. Also see Appendix A, Example Data Files, for an example of the State 1 report.

Table 4.18-1, System Latency Report for State 1

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comment
Report Header	Report Title	30	String	JPSS System Latency Report	N/A	Title identifies spacecraft and whether latency information is system or segment.
	Report Period	50	String	MM/DD/YYYY HH:MM:SS - MM/DD/YYYY HH:MM:SS	Date/Time	Unless specified otherwise, the Report Period is pre-defined to cover midnight – midnight for a given date. Date does not contain leading zeroes 3/1/2010 00:00:00 – 3/2/2010 00:00:00
Included Products Section	Site ID	4	String	AFWA NESD	N/A	A four character representation for the site
	Product Name	95	String	Any valid ASCII character	N/A	Text description of each EDR granule type EDR = Environmental Data Record
	Number of Granules produced	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Product per Central and Total for all Centrals - Count of each EDR granule type produced
	Average System Latency (min)	4	Real	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Per Product per Central and Total for all Centrals -Average system latency in minutes of the EDR produced
Totals Line	Number of Granules	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Central and Total for all Centrals - Count of each EDR granule type produced
	Average Latency	4	Real	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Per Central and Total for all Centrals -Average system latency in minutes of the EDR produced
EDRs Section	EDRs <= 140 Minutes (Count) Number of Granules	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Central and Total -The number of EDRs whose system latency is equal to or less than the NPP required system latency of 140 minutes.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comment
	EDRs <= 140 Minutes (Percent) Average Latency	4	Real	0 -100	Percent	Per Central and Total -The percent of EDRs whose system latency is equal to or less than the NPP required system latency of 140 minutes
	EDRs > 140 Minutes (Count) Number of Granules	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Central and Total -The number of EDRs whose system latency is greater than the NPP required system latency of 140 minutes
	EDRs > 140 Minutes (Percent) Average Latency	4	Real	0 – 100	Percent	Per Central and Total -The percent of EDRs whose system latency is greater than the NPP required system latency of 140 minutes
Excluded Products Section	Site ID	4	String	AFWA NESD	N/A	A four character representation for the site
	Product Name	95	String	Any valid ASCII character	N/A	Text description of each EDR granule type
	Number of Granules produced	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Product per Central and Total for all Centrals - Count of each EDR granule type produced
	Average Measured System Latency (min)	4	Real	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Per Product per Central and Total for all Centrals -Average system latency in minutes of the EDR produced
	# of EDRs Meeting Required Latency	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Product per Central and Total -The number of EDRs whose system latency is less than or equal to the NPP required system latency
	% of EDRs Meeting Required Latency	8	Real	0 -100	Percent	Per Product per Central and Total -The percent of EDRs whose system latency is less than or equal to NPP required system latency
Totals Line	Number of Granules	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Central and Total for all Centrals - Count of each EDR granule type produced

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comment
	Average Latency	4	Real	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Per Central and Total for all Centrals -Average system latency in minutes of the EDRs produced
	Number of Granules Meeting Required Latency	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Central and Total for all Centrals - Count of each EDR granule type produced meeting system latency requirement
	Percent Granules Meeting Average Latency	4	Real	0 – 100	Percent	Per Central and Total for all Centrals -The percentage of EDRs meeting system latency requirement

Table 4.18-2, System Latency Report for States 2 and 3

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comment
Report Header	Report Title	30	String	JPSS System Latency Report	N/A	Title identifies spacecraft and whether latency information is system or segment.
	Report Period	50	String	MM/DD/YYYY HH:MM:SS - MM/DD/YYYY HH:MM:SS	Date/Time	Unless specified otherwise, the Report Period is pre-defined to cover midnight – midnight for a given date. Date does not contain leading zeroes 3/1/2010 00:00:00 – 3/2/2010 00:00:00
Products Section (Repeated per Site, per Spacecraft, per Product)	Site ID	4	String	AFWA FNMC NAVO NESD	N/A	A four character representation for the site
	Spacecraft ID	4	String	NPP N01 N02	N/A	A three character representation for the spacecraft
	Product Name	95	String	Collection Short Name	N/A	Text description of each EDR granule type See the JPSS CDFCB-X Vol. I, Appendix A for the list of Collection Short Names
	Number of Granules produced	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Per Product per Spacecraft per Central - Count of each EDR granule type produced
	AMDT	4	Real	>0 Decimal number calculated to the 10th of a minute (every 6 seconds)	Minutes	Average of the measured delivery time Computed by summing the time period between EDR production and final EDR delivery time for all Delivered EDRs subject to System latency, and then computing the average per Granule
	Average System Latency (min)	4	Real	>0 Decimal number calculated to the 10th of a minute (every 6 seconds)	Minutes	Per Product per Spacecraft per Central - Average system latency in minutes of the EDR granule type produced

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comment
	95% System Latency (min)	4	Real	Decimal number calculated to the 10th of a minute (every 6 seconds)	Minutes	Per Product per Spacecraft per Central – Latency in minutes of 95% of the EDR granule type produced
Totals Line (Per Site, per Spacecraft)	Site ID	4	String	AFWA FNMC NAVO NESD	N/A	A four character representation for the site
	Spacecraft ID	4	String	NPP N01 N02	N/A	A 3 character representation for the spacecraft
	Number of Granules produced	8	Integer	0 – 9,223,372,036,854,775,807	EDR Granules	Count of all EDR granules produced

4.19 Segment Latency Report (State 1 Only)

Data Mnemonic	C3_NU-L00081-081
Description/ Purpose	Contains counts of EDR products generated against the system latency requirements thresholds for the segment. Each IDP at each central provides information to present a segment view of data latency, based on the average latency of EDR products per IDP at each Central per spacecraft. EDR Segment Latency = T_{stop} - T_{start} + AMDT Where T_{stop} is the time of EDR creation within IDPS and T_{start} is the time of RDR creation for the same granule ID. NOTE: In the event of Cross-Granule inputs into SDRs & EDRs in the granule chain, T_{start} will be determined by the timestamp of the latest RDR that is a cross-granule input for that granule. This report is generated for NPP, State 1 Only The requestable reporting period can span up to a year
File-Naming Construct	The HTML file is named default.htm and the directory containing the file is named SegmentLatency_YYYYMMDD. The link on the web page is named JPSS Data Accountability Segment Latency Report_ YYYYMMDD (there is no extension for the link) Example: JPSS Data Accountability Segment Latency Report_20051010 (which links to ../SegmentLatency_20051012/default.htm)
File Size	For each satellite for which statistics are being reported, a daily, text formatted HTML file of approximately 1MiB.
File Format Type	HTML
Production Frequency	Daily report produced daily, all other production on an as requested basis
Data Content and Data Format	See Table 4.19-1, Segment Latency Report Format, for details and Appendix A, Example Data Files, for an example of this report.

Table 4.19-1, Segment Latency Report Format

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Report Header	Report Title	30	String	JPSS Segment Latency Report	N/A	Title identifies spacecraft and whether latency information is system or segment.
	Report Period	50	String	MM/DD/YYYY HH:MM:SS - MM/DD/YYYY HH:MM:SS	Date/Time	Unless specified otherwise, the Report Period is pre-defined to cover midnight – midnight for a given date. Date does not contain leading zeroes 3/1/2010 00:00:00 – 3/2/2010 00:00:00
Included Products Section	Site ID	4	String	AFWA NESD	NA	A four character representation for the site
	Site Name	75	String	Air Force Weather Agency National Environmental Satellite, Data, and Information Service	N/A	
	Product Name	95	String	Any valid ASCII character	N/A	Text description of each EDR granule type
	Number of Granules produced	8	Integer	0 – 9,223,372,036,854,775,807	EDR / Granules	Per Product per Central and Total for all Centrals - Count of each EDR granule type produced
	Average Segment Latency (min)	4	Real	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Per Product per Central and Total for all Centrals -Average latency in minutes of the EDR produced
	EDRs <= 10 Minutes (Count) – Number of Granules Produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total for all Centrals - Count of each EDR granule type produced
	EDRs <= 10 Minutes %	4	Real	0 – 100	Percent	The percent of EDRs <= 10 Minutes to Total Number of Granules Produced

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
	EDRs >10<= 15 Minutes (Count) – Number of Granules Produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Central and Total -The number of EDRs whose segment latency is greater than 10 minutes but equal to or less than 15 minutes or the NPP required segment latency
	EDRs >10 <= 15 Minutes (Percent)	4	Real	0 – 100	Percent	The percent of EDRs > 10 and <= 15 Minutes to Total Number of Granules Produced
	EDRs > 15 Minutes (Count) – Number of Granules Produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Central and Total -The number of EDRs whose segment latency is greater than the NPP required segment latency of 15 minutes
	EDRs > 15 Minutes (Percent)	4	Real	0 – 100	Percent	The percent of EDRs > 15 Minutes to Total Number of Granules Produced
Totals Line	Number of Granules produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total for all Centrals - Count of each EDR granule type produced
	Average Segment Latency (min)	4	Real	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Per Product per Central and Total for all Centrals -Average latency in minutes of the EDR produced
	EDRs <= 10 Minutes (Count) – Number of Granules Produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total for all Centrals - Count of each EDR granule type produced
	EDRs <= 10 Minutes %	4	Real	0 – 100	Percent	The percent of EDRs <= 10 Minutes to Total Number of Granules Produced

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
	EDRs >10<= 15 Minutes (Count) – Number of Granules Produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Central and Total -The number of EDRs whose segment latency is greater than 10 minutes but equal to or less than 15 minutes or the NPP required segment latency
	EDRs >10 <= 15 Minutes (Percent)	4	Real	0 – 100	Percent	The percent of EDRs > 10 and <= 15 Minutes to Total Number of Granules Produced
	EDRs > 15 Minutes (Count) – Number of Granules Produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Central and Total -The number of EDRs whose segment latency is greater than the NPP required segment latency of 15 minutes
	EDRs > 15 Minutes (Percent)	4	Real	0 – 100	Percent	The percent of EDRs > 15 Minutes to Total Number of Granules Produced
Pro duc	Site ID	4	String	AFWA NESD	N/A	A four character representation for the site
	Site Name	75	String	Air Force Weather Agency National Environmental Satellite, Data, and Information Service	N/A	
	Product Name	95	String	Any valid ASCII character	N/A	Text description of each EDR granule type
	Number of Granules produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total for all Centrals - Count of each EDR granule type produced
	Average Segment Latency (min)	4	Real	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Per Product per Central and Total for all Centrals -Average latency in minutes of the EDR produced
	Required Segment Latency (min)	4	Integer	Positive Integer	Minutes	Required segment latency for each Product

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
	# of Granules Meeting Required Latency	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total -The number of EDRs whose segment latency is less than or equal to the NPP/JPSS required latency
	% of Granules Meeting Required Latency	4	Real	0 – 100	Percent	Per Product per Central and Total -The percent of EDRs whose latency is less than or equal to the NPP/JPSS required latency
	# of Granules Not Meeting Required Latency	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total -The number of EDRs whose segment latency is greater than the NPP/JPSS required latency
	% of Granules Meeting Not Required Latency	4	Real	0 – 100	Percent	Per Product per Central and Total -The percent of EDRs whose latency is greater than the NPP/JPSS required latency
Totals Line	Total Number of Granules produced	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total for all Centrals - Count of each EDR granule type produced
	Total Average Segment Latency (min)	4	Real	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Per Product per Central and Total for all Centrals -Average latency in minutes of the EDR produced
	Total Required Segment Latency (min)	4	Integer	Floating point precision number data from -3.40E + 38 through 3.40E + 38.	Minutes	Required segment latency for each Product
	Total # of Granules Meeting Required Latency	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total -The number of EDRs whose segment latency is less than or equal to the NPP/JPSS required latency
	Total % of Granules Meeting Required Latency	4	Real	0 – 100	Percent	Per Product per Central and Total -The percent of EDRs whose latency is less than equal to the NPP/JPSS required latency

	Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
	Total # of Granules Not Meeting Required Latency	8	Integer	0 – 9,223,372,036,854,775,807	N/A	Per Product per Central and Total -The number of EDRs whose segment latency is greater than the NPP/JPSS required latency
	Total % of Granules Meeting Not Required Latency	4	Real	0 – 100	Percent	Per Product per Central and Total -The percent of EDRs whose latency is greater than the NPP/JPSS required latency

4.20 Network Service Operational Statistics

Data Mnemonic	C3_NU-LW2070-000
Description/ Purpose	Status information about the condition of the network relative to the data flowing across it. The report captures the firewall and switch status points that reach a critical threshold value. If no statistics exceed the defined thresholds, then the report is blank. There are no mandatory items defined that must appear on this report.
File-Naming Construct	The file-naming convention is: Network_Service_Operational_Statistics_YYYYMMDD.html Example: Network_Service_Operational_Statistics_20061108.html
File Size	20 KiB
File Format Type	HTML
Production Frequency	Run daily
Data Content and Data Format	See Table 4.20-1, Network Service Operational Statistics Format, for details.

Table 4.20-1, Network Service Operational Statistics Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Firewall	N/A	N/A	N/A	N/A	Firewall (FW) Identifier
FW CPU Utilization	4	Integer	> 80%	Percent	CPU Utilization per firewall
FW Memory Utilization	4	Integer	> 80%	Percent	Memory Utilization per firewall
FW Hardware Status	4	Integer	<= 3	N/A	Indicates critical state
FW Current Connection Count	4	Integer	>=0	N/A	Number of current connections available per firewall
FW Total Open Connection	4	Integer	>=0	N/A	Number of total open connections available per firewall
Switches	N/A	N/A	N/A	N/A	Switch Identifier
Switch CPU Utilization	4	Integer	> 80%	Percent	Central Processing Unit (CPU) Utilization per switch
Switch Memory Utilization	4	Integer	> 80%	Percent	Memory Utilization per switch
Switch LAN Interface Errors	4	Integer	> 100	N/A	Number of errors per Local Area Network (LAN) switch
LAN Interface Utilization	4	Integer	> 80%	Percent	

4.21 End of Contact Report

Data Mnemonic	C3_NU-LW0010-001
Description/Purpose	The End of Contact (EOC) Report is a configurable report that can be produced on an ad hoc or scheduled basis. The report contains relevant contact information, such as Acquisition of Signal (AOS), Loss of Signal (LOS), Contact ID, Command sent and Activities planned It also contains alarms produced by Eclipse during the contact, including critical, warning and informative specified by JPSS Authorized User(s) as specified in the search criteria. The first section of the report contains the contact information and a summary of information contained in the report. The second section of the report contains tables that provide more detail to the summary information at the beginning of the report. This section focuses on activity information, commands sent and alarms produced. The third and final section contains the filtered Real Time Log (RTLog) messages that are based on specific search criteria.
File-Naming Construct	<Spacecraft ID>_<session>_<eoc_stc>_<YYYYMMDD>_<HHMMSS>_<SSS>.xml A Style sheet is also posted with each XML file, named EOC.xsl
File Size	Variable
File Format Type	XML
Production Frequency	Nominally after every contact, but can be produced as needed (dynamic)
Data Format and Data Structure	See Table 4.21-1, End of Contact Report, for details. See Table 4.21-2, Example CSC Names, Associated Source Numbers, and Abbreviations. See Example 4.21-1, XML Schema for End of Contact Report and Example 4.21-2, XML Stylesheet for End of Contact Report for the XML schema and style sheet, respectively.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.21-1, End of Contact Report

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Header	N/A	complexType	Element: Contact Info	N/A	Parent Element
Contact Info	N/A	complexType	Attributes: Spacecraft: Contact ID: REV: Ground Station: Visibility Begin: AOS: LOS: Visibility End:	N/A	Information about the Contact for which the report was created.
Spacecraft:	N/A	String	N/A	N/A	The spacecraft for which the report was created.
Contact ID:	N/A	Integer	N/A	N/A	The ID of the contact associated with the report.
REV:	N/A	Integer	N/A	N/A	The current Rev number.
Ground Station	N/A	String	N/A	N/A	Contact Ground stations identifier, e.g., SVL, WSC…
Visibility Begin:	N/A	dateTime	N/A	N/A	DD MM YYYY HH:MM:SS
AOS:	N/A	dateTime	N/A	N/A	Acquisition of Signal, DD MM YYYY HH:MM:SS
LOS:	N/A	dateTime	N/A	N/A	Loss of Signal, DD MM YYYY HH:MM:SS
Visibility End:	N/A	dateTime	N/A	N/A	DD MM YYYY HH:MM:SS
Command Counts	N/A	complexType	Element: Spacecraft Commands Ground Commands	N/A	Parent Element
Spacecraft Commands	N/A	Integer	N/A	N/A	The number of spacecraft commands sent during the period over which the report was created.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Ground Commands	N/A	Integer	N/A	N/A	The number of ground commands sent during the period over which the report was created.
Alarm Counts	N/A	complexType	Elements: Critical Alarms Warning Messages Informational Messages Acknowledged Messages	N/A	Parent Element
Critical Alarms	N/A	Integer	N/A	N/A	The number of Critical Alarms encountered during the period over which the report was created.
Warning Messages	N/A	Integer	N/A	N/A	The number of Warning Messages encountered during the period over which the report was created.
Informational Messages	N/A	Integer	N/A	N/A	The number of Informational Messages encountered during the period over which the report was created.
Acknowledged Messages	N/A	Integer	N/A	N/A	The number of Acknowledges Messages encountered during the period over which the report was created.
Plan Activity Information	N/A	complexType	Elements: Plan Name Time Started	N/A	Parent Element
Plan Name	N/A	String	N/A	N/A	The name of the plan that was executed during the contact.
Time Started	N/A	dateTime	N/A	N/A	The time that the plan was started in Eclipse.
Contact Activity Information	N/A	String	Attributes: Activity Name Time Sent Activity State	N/A	Parent Element
Activity Name	N/A	String	N/A	N/A	Each activity is recorded that occurred during the period over which the report was created. Most activities are procedures (procs) that are executed during the contact.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Time Sent	N/A	dateTime	N/A	N/A	The time that the activity occurred or was executed for each particular state.
Activity State	N/A	ProcStates	See valid range of ProcStates	N/A	The state of the activity as it is executed. Some Activities may have more than one state, i.e. Started and Completed.
Spacecraft Command Information	N/A	complexType	Attributes: Command Name Time Sent Command State GFSN/FSN	N/A	Parent Element
Command Name	N/A	String	This field is limited to mnemonics found in the Spacecraft Database.	N/A	The mnemonic used for the command.
Time Sent	N/A	dateTime	N/A	N/A	The time that the command had a state change.
Command State	N/A	CommandStates	See valid range of CommandStates	N/A	The state that the command was or is in. Each command may be listed more than once depending on the number of state changes.
GFSN/FSN	N/A	Integer	0 - 255	N/A	The associated Ground Frame Sequence Number and Frame Sequence Number for the command.
Ground Command Information	N/A	complexType	Attributes: Command Name/Number Time Sent Command State	N/A	Parent Element
Command Name/Number	N/A	String	This field is limited to mnemonics and command IDs found in the Ground Database.	N/A	The mnemonic or Ground Command ID used for the command.
Time Sent	N/A	dateTime	N/A	N/A	The time that the command had a state change.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Command State	N/A	CommandStates	See valid range of CommandStates	N/A	The state that the command was or is in. Each command may be listed more than once depending on the number of state changes.
Alarm Information	N/A	complexType	Attributes: Message Severity Message Subsystem Message Type Time of Message Message Text	N/A	Parent Element
Message Severity	N/A	Severities	See valid range of Severities	N/A	The severity of the message.
Message Subsystem	N/A	String	See Table 4.21-2, Example CSC Names, Associated Source Error Numbers, and Abbreviations, for valid list of CSC names	N/A	The Eclipse subsystem Computer Software Component (CSC) that the message is reported from.
Message Type	N/A	AlarmTypes	See valid range of AlarmTypes	N/A	The type of Alarm.
Time of Message	N/A	dateTime	N/A	N/A	The time that the Message was created.
Message Text	N/A	String	N/A	N/A	The text of the message.
Filtered RTLog Messages	N/A	complexType	Attributes: Time Err Num Severity Source Reporting CSC Message	N/A	Parent Element
Time	N/A	dateTime	N/A	N/A	The time that the Message was created.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Err Num	N/A	Integer	N/A	N/A	The number that is associated with the message within Eclipse.
Severity	N/A	RTLSeverities	See valid range of RTLSeverities	N/A	The severity of the message.
Source	N/A	Integer	See Table 4.21-2, Example CSC Names, Associated Source Error Numbers, and Abbreviations, for valid list of Source Numbers	N/A	The Source number is related to the Reporting CSC where the message was reported from.
Reporting CSC	N/A	String	See Table 4.21-2, Example CSC Names, Associated Source Error Numbers, and Abbreviations, for valid list of CSC names	N/A	The CSC where the message was reported from.
Message	N/A	String	N/A	N/A	The text of the message.
ProcStates	N/A	String	Started Completed Skipped Aborted StartLate	N/A	The valid states for Procs.
CommandStates	N/A	String	Transmitted Validated Retransmitted Failed	N/A	The valid states for Commands.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Severities	N/A	String	Critical Warning Info	N/A	The valid Severities associated with Alarm Messages.
AlarmTypes	N/A	String	ECLP SYS GND SC	N/A	They valid types of Alarms.
RTLSeverities	N/A	String	Critical Warning Info	N/A	The valid Severities associated with RTLog Messages.

Table 4.21-2, Example CSC Names, Associated Source Error Numbers, and Abbreviations

CSC Name	Source Number	Abbreviation
COMMAND	10	CMD
CMDPRT_CCSDS (Command Protocol - CCSDS)	12	CMDPRT
TELEMETRY	15	TLM
AUTOEXEC_SC (Spacecraft)	20	AUT_SC
AUTOEXEC_GND (Ground)	21	AUT_GND
ICL (Interactive Command Language, CECIL)	25	ICL
ARCHIVE	40	ARC
HISLOG (History Logging)	45	HISLOG
HISPBK (History Playback)	46	HISPBK
HISREQ (History Retrieval)	47	HISREQ
STP (Startup/Terminate Program)	55	STP
HWI (Hardware Interface)	60	HWI
HMI (Human Machine Interface)	70	HMI
INFRA (Infrastructure)	75	INF
CMDINTRP (Command Interpreter)	85	CMDITR
NT (New Technology)	90	NT_OS
UTL (Utilities)	100	UTL
ENGCMD (Engineering Command)	105	ENGCMD
TAPS (Telemetry Application - Library)	110	TAPS
CMD_TAPS (Command Telemetry Application - Library)	115	CMDTAPS
LRVFILTER (LRV Filter)	120	LRVFILTER
OBPNPP (On Board Processor NPP)	133	OBPNPP
RTL (Real Time Log)	135	RTL
GND_COMMAND (Ground Command)	140	GNDCMD
EQUATION	155	EQUATION
SNMPMGR (SNMP Manager)	165	SNMPMGR
SNMPCLI (SNMP Client)	166	SNMPCLI
DISCON_ID (Discontinuity Identifier)	185	DISCON_ID
FM_ID (File Monitor Identifier)	190	FM
TC_ID (Telemetry Coverage Identifier)	195	TC

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Example 4.21-1, XML Schema for End of Contact Reports

```
<?xml version="1.0" encoding="UTF-8"?>

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified" attributeFormDefault="unqualified">

<xs:element name="EOC">
<xs:complexType>
<xs:sequence>
<xs:element name="Statistics">
<xs:complexType>
<xs:sequence>
<xs:element name="Spacecraft" type="xs:string"/>
<xs:element name="KeyPhrase" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="ForcedCSC" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="ForcedSeverity" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="AlarmCount" minOccurs="0">
<xs:complexType>
<xs:all>
<xs:element name="Critical" type="xs:integer"/>
<xs:element name="Warning" type="xs:integer"/>
<xs:element name="Informational" type="xs:integer"/>
<xs:element name="Acknowledged" type="xs:integer"/>
</xs:all>
</xs:complexType>
</xs:element>

<xs:element name="CommandCount" minOccurs="0">
<xs:complexType>
<xs:sequence>
<xs:element name="SpacecraftCommands" type="xs:int"/>
<xs:element name="GroundCommands" type="xs:int"/>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="PlannedActivities" minOccurs="0">
<xs:complexType>
<xs:sequence>
<xs:element name="Comment">
<xs:complexType>
<xs:attribute name="Time" type="xs:dateTime"/>
<xs:attribute name="User" type="xs:string"/>
```

```
</xs:complexType>
</xs:element>
<xs:element name="PROC">
<xs:complexType>
<xs:attribute name="Time" type="xs:dateTime"/>
<xs:attribute name="Name" type="xs:string"/>
</xs:complexType>
</xs:element>
<xs:element name="ChangePlan" minOccurs="0">
<xs:complexType>
<xs:attribute name="Time" type="xs:dateTime"/>
<xs:attribute name="Name" type="xs:string"/>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="ActualActivites">
<xs:complexType>
<xs:sequence>
<xs:element name="PROC">
<xs:complexType>
<xs:attribute name="Time" type="xs:dateTime" use="required"/>
<xs:attribute name="Name" type="xs:string" use="required"/>
<xs:attribute name="State" type="ProcStates" use="required"/>
</xs:complexType>
</xs:element>
<xs:element name="Command">
<xs:complexType>
<xs:attribute name="Time" type="xs:dateTime" use="required"/>
<xs:attribute name="Name" type="xs:string" use="required"/>
<xs:attribute name="Type" type="CommandTypes"/>
<xs:attribute name="State" type="CommandStates"/>
<xs:attribute name="FSN" type="xs:int"/>
</xs:complexType>
</xs:element>
<xs:element name="Alarm">
<xs:complexType>
<xs:attribute name="Time" type="xs:dateTime" use="required"/>
<xs:attribute name="Type" type="AlarmTypes" use="required"/>
<xs:attribute name="Subsystem" type="xs:string" use="required"/>
<xs:attribute name="Severity" type="Severities" use="required"/>
<xs:attribute name="RTLText" type="xs:string"/>
</xs:complexType>
</xs:element>
<xs:element name="RTLMSG">
```

```
<xs:complexType>
<xs:attribute name="Type" type="RTLSeverities" use="required"/>
<xs:attribute name="Time" type="xs:dateTime" use="required"/>
<xs:attribute name="Subsystem" type="xs:string" use="required"/>
<xs:attribute name="ReportingCSC" type="xs:string" use="required"/>
<xs:attribute name="RTLText" type="xs:string" use="required"/>
<xs:attribute name="Number" type="xs:int" use="required"/>
</xs:complexType>
</xs:element>
<xs:element name="ChangePlan">
<xs:complexType>
<xs:attribute name="Time" type="xs:dateTime" use="required"/>
<xs:attribute name="Name" type="xs:string" use="required"/>
</xs:complexType>
</xs:element>
<xs:element name="ContactInfo">
<xs:complexType>
<xs:attribute name="ID" type="xs:int"/>
<xs:attribute name="Rev" type="xs:int"/>
<xs:attribute name="GroundStation" type="xs:string"/>
<xs:attribute name="AOS" type="xs:dateTime"/>
<xs:attribute name="LOS" type="xs:dateTime"/>
<xs:attribute name="VisibilityBegin" type="xs:dateTime"/>
<xs:attribute name="VisibilityEnd" type="xs:dateTime"/>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:simpleType name="AlarmTypes">
<xs:annotation>
<xs:documentation>These are the valid Alarm Types</xs:documentation>
</xs:annotation>
<xs:restriction base="xs:string">
<xs:enumeration value="SC"/>
<xs:enumeration value="GND"/>
<xs:enumeration value="SYS"/>
<xs:enumeration value="ECLP"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="Severities">
<xs:annotation>
<xs:documentation>These are the valid Severity Types</xs:documentation>
```

</xs:annotation>

```
<xs:restriction base="xs:string">
<xs:enumeration value="Critical"/>
<xs:enumeration value="Warning"/>
<xs:enumeration value="Info"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="RTLSeverities">
<xs:annotation>
<xs:documentation>These are the valid Severity Types</xs:documentation>
</xs:annotation>
<xs:restriction base="xs:string">
<xs:enumeration value="Critical"/>
<xs:enumeration value="Warning"/>
<xs:enumeration value="Info"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="CommandTypes">
<xs:annotation>
<xs:documentation>These are the valid Command Types</xs:documentation>
</xs:annotation>
<xs:restriction base="xs:string">
<xs:enumeration value="SC"/>
<xs:enumeration value="GND"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="CommandStates">
<xs:annotation>
<xs:documentation>These are the valid Command States</xs:documentation>
</xs:annotation>
<xs:restriction base="xs:string">
<xs:enumeration value="Transmitted"/>
<xs:enumeration value="Validated"/>
<xs:enumeration value="Retransmitted"/>
<xs:enumeration value="Failed"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType name="ProcStates">
<xs:annotation>
<xs:documentation>These are the valid Procedure States</xs:documentation>
</xs:annotation>

<xs:restriction base="xs:string">
<xs:enumeration value="Started"/>
<xs:enumeration value="Completed"/>
<xs:enumeration value="Skipped"/>
<xs:enumeration value="Aborted"/>
```

```
<xs:enumeration value="StartedLate"/>
</xs:restriction>
</xs:simpleType>
</xs:schema>
```

Example 4.21-2, XML Stylesheet for End Of Contact Reports

```
<xsl:stylesheet
   version="1.0"
   xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<xsl:output method="html" omit-xml-declaration="yes" />
<xsl:template match="/" name="EndOfContactReport">
<html>
<body>
<center>
<!-- <img src="npoess_logo_small.gif" width="350" height="202" hspace="6" vspace="6" align="right"></img> -->
 <!--******************** HEADER INFO ******************** -->
 <b>
 <font size="+2">
    End Of Contact Report for <xsl:value-of select="EndOfContactReport/START_TIME"/><br/>
    Spacecraft - <xsl:value-of select="EndOfContactReport/Statistics/Spacecraft"/><br/>
 </font>
 </b>
 <br/>
 <br/>

 <!--******************* Contact Statistics ********************-->
 <table cols="2">
    <font face="Tahoma">
      <tr>
        <td align="right"><font size="4"><b>Spacecraft: </b></font></td>
        <td align="left"><font size="4"><xsl:value-of select="EndOfContactReport/Statistics/Spacecraft" /></font></td>
      </tr>
      <tr>
        <td align="right"><font size="4"><b>Contact ID: </b></font></td>
        <td align="left"><font size="4"><xsl:value-of select="EndOfContactReport/ActualActivites/ContactInfo/@ID" /></font></td>
      </tr>
      <tr>
        <td align="right"><font size="4"><b>REV: </b></font></td>
        <td align="left"><font size="4"><xsl:value-of select="EndOfContactReport/ActualActivites/ContactInfo/@Rev" /></font></td>
      </tr>
      <tr>
```

```
      <td align="right"><font size="4"><b>Visibility Begin: </b></font></td>
      <td align="left"><font size="4"><xsl:value-of select="EndOfContactReport/ActualActivites/ContactInfo/@VisibilityBegin" /></font></td>
    </tr>
    <tr>
      <td align="right"><font size="4"><b>AOS: </b></font></td>
      <td align="left"><font size="4"><xsl:value-of select="EndOfContactReport/ActualActivites/ContactInfo/@AOS" /></font></td>
    </tr>
    <tr>
      <td align="right"><font size="4"><b>LOS: </b></font></td>
      <td align="left"><font size="4"><xsl:value-of select="EndOfContactReport/ActualActivites/ContactInfo/@LOS" /></font></td>
    </tr>
    <tr>
      <td align="right"><font size="4"><b>Visibility End: </b></font></td>
      <td align="left"><font size="4"><xsl:value-of select="EndOfContactReport/ActualActivites/ContactInfo/@VisibilityEnd" /></font></td>
    </tr>
    <tr>
      <td align="right"><font size="4"> </font></td>
      <td align="left"><font size="4"> </font></td>
    </tr>
  </font>
</table>
<br/>
<br/>

<!--******************* Command Statistics ********************-->
<table border="2" cellpadding="5" width="30%">
 <tr>
  <th colspan="2"><b>Command Counts</b></th>
 </tr>
 <tr>
  <th>Spacecraft Commands</th>
  <th>Ground Commands</th>
 </tr>
 <xsl:for-each select="EndOfContactReport/Statistics/CommandCount">
 <tr>
  <td><xsl:value-of select="SpacecraftCommands"/></td>
  <td><xsl:value-of select="GroundCommands"/></td>
```

```
  </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!--******************* Alarm Statistics ********************-->
<table border="2" cellpadding="5" width="30%">
  <tr>
    <th colspan="4"><b>Alarm Counts</b></th>
  </tr>
  <tr>
    <th>Critical Alarms</th>
    <th>Warning Messages</th>
    <th>Informational Messages</th>
    <th>Acknowledged Messages</th>
  </tr>
  <xsl:for-each select="EndOfContactReport/Statistics/AlarmCount">
  <tr>
    <td><xsl:value-of select="Critical"/></td>
    <td><xsl:value-of select="Warning"/></td>
    <td><xsl:value-of select="Informational"/></td>
    <td><xsl:value-of select="Acknowledged"/></td>
  </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!--******************* Activity (Change Plans) Information ********************-->
<table border="2" cellpadding="1" width="100%">
  <tr>
    <th colspan="2"><b>Plan Activity Information</b></th>
  </tr>
  <tr>
    <th>Plan Name</th>
    <th>Time Started</th>
  </tr>
  <xsl:for-each select="EndOfContactReport/ActualActivites/ChangePlan">
      <tr>
```

```
      <td><xsl:value-of select="@Name"/></td>
      <td><xsl:value-of select="@Time"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!--******************* Activity (PROCs, Comments) Information ********************-->
<table border="2" cellpadding="1" width="100%">
  <tr>
    <th colspan="3"><b>Contact Activity Information</b></th>
  </tr>
  <tr>
    <th>Activity Name</th>
    <th>Time Sent</th>
    <th>Activity State</th>
  </tr>
  <xsl:for-each select="EndOfContactReport/ActualActivites/PROC">
    <tr>
      <td><xsl:value-of select="@Name"/></td>
      <td><xsl:value-of select="@Time"/></td>
      <td><xsl:value-of select="@State"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!--******************* Spacecraft Command Information ********************-->
<table border="2" cellpadding="1" width="80%">
  <tr>
    <th colspan="4"><b>Spacecraft Command Information</b></th>
  </tr>
  <tr>
    <th>Command Name</th>
    <th>Time Sent</th>
    <th>Command State</th>
    <th>GFSN/FSN</th>
  </tr>
```

```
  <xsl:for-each select="EndOfContactReport/ActualActivites/COMMAND">
     <xsl:if test="@Type='SC'">
        <tr>
          <td><xsl:value-of select="@Name"/></td>
          <td><xsl:value-of select="@Time"/></td>
          <td><xsl:value-of select="@State"/></td>
          <td><xsl:value-of select="@FSN"/></td>
        </tr>
     </xsl:if>
  </xsl:for-each>
 </table>
 <br/>
 <br/>

 <!--******************* Ground Command Information ********************-->
 <table border="2" cellpadding="1" width="80%">
  <tr>
   <th colspan="3"><b>Ground Command Information</b></th>
  </tr>
  <tr>
   <th>Command Name/Number</th>
   <th>Time Sent</th>
   <th>Command State</th>
  </tr>
  <xsl:for-each select="EndOfContactReport/ActualActivites/COMMAND">
     <xsl:if test="@Type='GND'">
        <tr>
          <td><xsl:value-of select="@Name"/></td>
          <td><xsl:value-of select="@Time"/></td>
          <td><xsl:value-of select="@State"/></td>
        </tr>
     </xsl:if>
  </xsl:for-each>
 </table>
 <br/>
 <br/>

 <!--******************* Alarm Information ********************-->
 <table border="2" cellpadding="1" width="100%">
  <tr>
```

```
  <th colspan="5"><b>Alarm Information</b></th>
 </tr>
 <tr>
  <th>Message Severity</th>
  <th>Message Subsystem</th>
  <th>Message Type</th>
  <th>Time of Message</th>
  <th>Message Text</th>
 </tr>
 <xsl:for-each select="EndOfContactReport/ActualActivites/ALARM">
 <xsl:sort select="@Time"/>
    <xsl:if test="@Severity='Critical'">
       <tr>
         <td><xsl:value-of select="@Severity"/></td>
         <td><xsl:value-of select="@Subsystem"/></td>
         <td><xsl:value-of select="@Type"/></td>
         <td><xsl:value-of select="@Time"/></td>
         <td><xsl:value-of select="@RTLText"/></td>
       </tr>
    </xsl:if>
 </xsl:for-each>
 <xsl:for-each select="EndOfContactReport/ActualActivites/ALARM">
 <xsl:sort select="@Time"/>
    <xsl:if test="@Severity='Warning'">
       <tr>
         <td><xsl:value-of select="@Severity"/></td>
         <td><xsl:value-of select="@Subsystem"/></td>
         <td><xsl:value-of select="@Type"/></td>
         <td><xsl:value-of select="@Time"/></td>
         <td><xsl:value-of select="@RTLText"/></td>
       </tr>
    </xsl:if>
 </xsl:for-each>
 <xsl:for-each select="EndOfContactReport/ActualActivites/ALARM">
 <xsl:sort select="@Time"/>
    <xsl:if test="@Severity='Info'">
       <tr>
         <td><xsl:value-of select="@Severity"/></td>
         <td><xsl:value-of select="@Subsystem"/></td>
         <td><xsl:value-of select="@Type"/></td>
```

```
            <td><xsl:value-of select="@Time"/></td>
            <td><xsl:value-of select="@RTLText"/></td>
          </tr>
        </xsl:if>
    </xsl:for-each>
  </table>
  <br/>
  <br/>

</center>

  <!--******************* RTLog Messages ********************-->
  <table border="2" cellpadding="10" width="100%">
    <tr>
      <th colspan="6"><b>Filtered RTLOG Messages</b></th>
    </tr>
    <tr>
      <th>Time</th>
      <th>Err Num</th>
      <th>Severity</th>
      <th>Source</th>
      <th>Reporting CSC</th>
      <th>Message</th>
    </tr>
    <xsl:for-each select="EndOfContactReport/ActualActivites/RTLMSG">
    <tr>
      <td><xsl:value-of select="@Time"/></td>
      <td><xsl:value-of select="@Number"/></td>
      <td><xsl:value-of select="@Type"/></td>
      <td><xsl:value-of select="@Subsystem"/></td>
      <td><xsl:value-of select="@ReportingCSC"/></td>
      <td><xsl:value-of select="@RTLText"/></td>
    </tr>
    </xsl:for-each>
  </table>
  <br/>
  <br/>

  <!--********************** END TIME ********************** -->
  <!--<b>End Of Pass : <xsl:value-of select="EndOfContactReport/END_TIME"/></b> -->
```

```
</body>
</html>
</xsl:template>
</xsl:stylesheet>
```

4.22 Spacecraft Configuration Database Update

Data Mnemonic	C3_NU-L00040-040
Description/Purpose	Identifies the operational state of the NPP and JPSS satellites and their sensors. The entire table is repeated for each sensor. These files are using telemetry LRVs. A Spacecraft Configuration Database file describes the high level operational state of a particular spacecraft and its associated sensors. Each spacecraft and sensor state is independent of the other JPSS spacecraft and sensors. These files use generic descriptions for the state of the sensors and spacecraft. For each sensor, an entire record, as defined in Table 4.22-1, Spacecraft Configuration Database Update, is included in the file.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename – see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	Maximum 20 KiB file
File Format Type	XML
Production Frequency	After every contact with each satellite, regardless if there is a change. In the case of NPP, each contact is once per orbit. For JPSS satellites, each contact is once per orbit per spacecraft.
Data Format and Data Structure	See Table 4.22-1, Spacecraft Configuration Database Update, for details and Appendix A, Example Data Files, for an example data file. The data format definition for JPSS (Blocks 2/3) is **EDFCB6-TBD-10559.**

Table 4.22-1, Spacecraft Configuration Database Update

Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
spacecraftConfigurationDatabase	N/A	ComplexType	Sub-Elements: vehicleConfiguration	N/A	
vehicleConfiguration	N/A	ComplexType	Sub-Elements: vehicleState sensorState	N/A	Sensor State may repeat 0 to many times
vehicleState	N/A	ComplexType	Sub-Elements: vehicleID vehicleMode version1 version2 vehicleWorth	N/A	Identifies the current state of the vehicle
vehicleID	N/A	String	Spacecraft Alphanumeric	N/A	Spacecraft ID See the JPSS CDFCB-X Vol. I, 474-00001-01, Appendix D

Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
vehicleMode	N/A	String	OPS – Operational Mode, OFF – Off Mode, LEO –Early Orbit Checkout ACT – Activation DIA – Diagnostic Mode SAF – Safe Mode ISM – Instrument Safe Mode SSM – Spacecraft Safe Mode SUR – Survival Mode AUT – Autonomous OUT – Outgas Mode BOT – Boot-up Mode LAU – Launch Mode SCI – Science Mode CAL – Calibration Mode ORA – Orbit Adjust Mode OPD – Operational Day Mode OPN – Operational Night Mode	N/A	Identifies the operational mode of a vehicle
version1	N/A	String	Not Restricted	N/A	Applicable CDP Flight Software version number
version2	N/A	String	Not Restricted	N/A	Applicable SCC Flight Software version number
vehicleWorth	N/A	String	Primary, Residual	N/A	Identifies whether a vehicle is primary or residual

Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
sensorState	N/A	ComplexType	Sub-Elements: sensorID sensorMode sensorWorth calTable software	N/A	Identifies the current state of the sensor(s)
sensorID	N/A	String	See JPSS CDFCB-X Vol. I for list of applicable Sensor Names	N/A	Sensor ID
sensorMode	N/A	String	Same as vehicleMode	N/A	Identifies the operational mode of a sensor.
sensorWorth	N/A	String	Same as vehicleWorth		Identifies whether a sensor is primary or residual
calTable	N/A	ComplexType	Sub-Elements: version effectivity	N/A	Identifies the current calibration table version for the sensor
Version	N/A	String	Not Restricted	N/A	Applicable version number
Effectivity	N/A	String	YYYY (2005 – 2030) MM (01- 12) DD (01- 31) HH (00 – 23) MM (00 – 59) SS (0 – 60) Separator. SSS (000- 999) (millisecond) SSS (000 – 999) (microsecond)	Date/Time	Date and time of effectivity in UTC YYYY MM DD HH MM SS.SSSSSS Represents the Date and Time of the upload. This is the time that the switch actually occurred in the past, or the time it occurs in the future, depending upon circumstances of update.

Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Software	N/A	ComplexType	Sub-Elements: version1 version2 effectivity	N/A	Identifies the current software version for the sensor

Example 4.22-1, XML Schema for Spacecraft Configuration Database Update

```
<?xml version=”1.0” encoding=”utf-8”?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="spacecraftConfigurationDatabase">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="vehicleConfiguration">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="vehicleState">
              <xs:complexType>
                <xs:sequence>
                  <xs:element name="vehicleID" type="xs:string"/>
                  <xs:element name="vehicleMode" type="xs:string" />
                  <xs:element name="version1" type="xs:string" />
                  <xs:element name="version2" type="xs:string" />
                  <xs:element name="vehicleWorth" type="xs:string" />
                </xs:sequence>
              </xs:complexType>
            </xs:element>
            <xs:element name="sensorState" maxOccurs="unbounded">
              <xs:complexType>
                <xs:sequence>
                  <xs:element name="sensorID" type="xs:string" />
                  <xs:element name="sensorMode" type="xs:string" />
                  <xs:element name="sensorWorth" type="xs:string" />
                  <xs:element name="calTable">
                    <xs:complexType>
                      <xs:sequence>
                        <xs:element name="version" type="xs:string" />
                        <xs:element name="effectivity" type="xs:string" />
                      </xs:sequence>
                    </xs:complexType>
                  </xs:element>
                  <xs:element name="software">
                    <xs:complexType>
                      <xs:sequence>
                        <xs:element name="version1" type="xs:string" />
                        <xs:element name="version2" type="xs:string" />
                        <xs:element name="effectivity" type="xs:string" />
                      </xs:sequence>
                    </xs:complexType>
                  </xs:element>
                </xs:sequence>
              </xs:complexType>
```

```
          </xs:element>
         </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>

<!--// DTD //-->

<?xml version="1.0" encoding="ISO-8859-1" ?>

<!--
    Spacecraft Configuration Database Updates DTD/schema file.
-->

<!ELEMENT spacecraftConfigurationDatabase (vehicleConfiguration) >
<!ELEMENT vehicleConfiguration( vehicleState, sensorState) >
<!ELEMENT sensorState (sensorID, sensorMode, sensorWorth, calTable, software) >
<!ELEMENT vehicleState (vehicleID, vehicleMode, version1, version2, vehicleWorth) >
<!ELEMENT software (version1, version2, effectivity) >
<!ELEMENT calTable (version, effectivity) >
<!ELEMENT vehicleID (#PCDATA) >
<!ELEMENT vehicleMode(#PCDATA) >
<!ELEMENT version1 (#PCDATA) >
<!ELEMENT version2 (#PCDATA) >
<!ELEMENT vehicleWorth (#PCDATA) >
<!ELEMENT effectivity (#PCDATA) >
<!ELEMENT sensorID (#PCDATA) >
<!ELEMENT sensorMode (#PCDATA) >
<!ELEMENT sensorWorth (#PCDATA) >
```

4.23 DELETED

4.24 Release Package Delivery Manifest

Data Mnemonic	NP_NU-L00050-000
Description/ Purpose	Release Package Delivery Manifests are XML formatted files that describe the files that are delivered to a particular destination. These files are a way for the user to verify the files that JPSS has transmitted in a given delivery. For delivery of bundles, the overall delivery contains a manifest for the files and each bundle also contains an independent manifest documenting its contents. An Message Digest 5 (MD5) Checksum is used to calculate the checksum of each file indicated in the manifest.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Files, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename, see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	0 files annotated = ~348 bytes 1 file annotated = ~543 bytes Increment size of ~196 bytes per each additional file annotated
File Format Type	XML
Production Frequency	As required – per delivery of Software and/or Documentation via the ISF
Data Content and Data Format	See Table 4.24-1, Release Package Delivery Manifest Format, for details and Example 4.24-1, Release Package Delivery Manifest XML Schema for the xml schema. Appendix A, Example Data Files, contains examples of the manifest files.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.24-1, Release Package Delivery Manifest Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
ReleasePackage	N/A	complexType	Attributes: delivery_datetime files rp_matrix	N/A	
delivery_datetime	N/A	String	YYYYMMDDHHMMZ	Date Time	The date and time of the delivery
Files	N/A	complexType	Attributes: file	N/A	Contains the list of included files
num_files	N/A	Integer	1 - 150	N/A	This indicates the number of files summarized in this report. This indicates the number of times the following four items are repeated.
File	N/A	complexType	Attributes: checksum filename size timestamp	N/A	Repeated for each file
Checksum	N/A	String	Unsigned long long >= 0	N/A	This is an MD5 checksum represented as HEX
Filename		String	As applies to naming convention	N/A	Repeated for each file
Size	N/A	Long	Unsigned long > 0	Bytes	Repeated for each file.
Timestamp	N/A	String	YYYYMMDDHHMMSSZ	Date Time	Repeated for each file

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
rp_matrix	N/A	complexType	Attributes: softwareRPfilename docRPfilename testRPfilename dataRPfilename	N/A	Occurs only once – provides a matrix of filenames for each of the four types of Release Packages which correlate to the current distribution
softwareRPfilename	N/A	String	See the JPSS CDFCB-X Vol. I, Section 3.4 for the file naming convention	N/A	The Software Release Package filename
docRPfilename	N/A	String	See the JPSS CDFCB-X Vol. I, Section 3.4 for the file naming convention	N/A	The Documentation Release Package filename
testRPfilename	N/A	String	See the JPSS CDFCB-X Vol. I, Section 3.4 for the file naming convention	N/A	The Test Data Release Package filename
dataRPfilename	N/A	String	See the JPSS CDFCB-X Vol. I, Section 3.4 for the file naming convention	N/A	The Supporting Data Release Package filename

Example 4.24-1, Release Package Delivery Manifest XML Schema

```
<?xml version="1.0" encoding="UTF-8" ?>

<xsd:schema xmlns:xsd=http://www.w3.org/2001/XMLSchema>

<xsd:complexType name=” ReleasePackage”>
  <xsd:sequence>
    <xsd:element name=”delivery_datetime” type=”string” />
    <xsd:element name=”files” type=”files” />
    <xsd:element name=”rp_matrix” type=”matrix” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”files”>
  <xsd:sequence>
    <xsd:element name=”num_files” type=”integer” />
    <xsd:element name=”file” type=”file” />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”file”>
  <xsd:attribute name=”checksum” type=”xsd:string” />
  <xsd:attribute name=”filename” type=”xsd:string” />
  <xsd:attribute name=”size” type=”xsd:integer” />
  <xsd:attribute name=”timestamp” type=”xsd:string” />
</xsd:complexType>

<xsd:complexType name=”matrix”>
  <xsd:attribute name=”softwareRPfilename” type=”xsd:string” />
  <xsd:attribute name=”docRPfilename” type=”xsd:string” />
```

```
<xsd:attribute name=”testRPfilename” type=”xsd:string” />
  <xsd:attribute name=”dataRPfilename” type=”xsd:string” />
</xsd:complexType>

</xsd:schema>

<!--// DTD //-->

<?xml version="1.0" encoding="UTF-8" ?>
<!--
    Software and Documentation  Delivery DTD/schema file.
-->
<!ELEMENT ReleasePackage ( delivery_datetime, files, matrix ) >
<!ELEMENT delivery_datetime ( #PCDATA ) >
<!ELEMENT files ( num_files, file* ) >
<!ELEMENT file ( checksum, filename, size, timestamp ) >
<!ELEMENT checksum ( #PCDATA ) >
<!ELEMENT filename ( #PCDATA ) >
<!ELEMENT size ( #PCDATA ) >
<!ELEMENT timestamp ( #PCDATA )  >
<!ELEMENT rp_matrix ( softwareRPfilename+, docRPfilename+, testRPfilename+, dataRPfilename+ ) >
<!ELEMENT softwareRPfilename ( #PCDATA ) >
<!ELEMENT documentationRPfilename ( #PCDATA ) >
<!ELEMENT testRPfilename ( #PCDATA ) >
<!ELEMENT dataRPfilename ( #PCDATA ) >
```

4.25 Stored Telemetry Analysis Plots

Data Mnemonic	C3_NU-LW2130-000
Description/ Purpose	A user can request the following STA Plots from JPSS via the STA Report Request Form or the WRS. These plots facilitate data reduction of the vehicle telemetry, so that it can be reviewed in a more concise and meaningful form: • Telemetry Plots – used to create LRV vs. Time (STA Report Request Form and WRS) and LRV vs. LRV plots. In addition, Stack Spectral plots can be created to indicate the frequency content of an LRV's signal. • Trend Plots – used to plot the data created when the results of the evaluation trend jobs are committed to operations • Polar Plots – used to plot polar type data • Histogram Plots – used to plot the distribution of a given LRV over a specified time interval All of these plots have the following common settings: • Title – user-defined string that is printed at the top of the plot • Background Color – user-defined background color used for the plot; options include: black, white, gray, and default • Foreground Color – user-defined foreground color used for the plot; options include: black, white, gray, and default
File-Naming Construct	STA Report Request Form: <plot_title>.<file_type_ext> WRS: user-defined
File Size	< 2 MiB
File Format Type	JPEG, GIF, Postscript, PNG, SXD (OpenOffice Draw File)
Production Frequency	Upon request
Data Content and Data Format	See Table 4.25-1, STA Telemetry Plot Settings, for the possible settings for Telemetry Plots, Table 4.25-2, STA Trend Plot Settings, list the possible settings for Trend Plots, Table 4.25-3, STA Polar Plot Settings, for the possible settings for Polar Plots, and Table 4.25-4, STA Histogram Plot Settings, for the possible settings for Histogram Plots.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.25-1, STA Telemetry Plot Settings

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Start Time	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The start time for the data to plot
End Time	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The end time for the data to plot
Data Source	N/A	String	Processed Telemetry Data Set	N/A	The type of the data to be plotted
X Grid	N/A	String	yes no	N/A	Display gridlines along the x-axis
Y Grid	N/A	String	yes no	N/A	Display gridlines along the y-axis
File(s)	N/A	String	filename(s)	N/A	The data files to be used for plotting – the file type must agree with the selected Data Source
LRV	N/A	String	LRV mnemonic of the data point – column contains 1 or more LRV entry for each LRV	N/A	The vehicle LRV to plot The Color, Symbol, and Line information that follows are designated per LRV
Color	N/A	String	blue green cyan purple hot pink dark orange maroon forest green black	N/A	The color of the line/symbol for the LRV

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Symbol	N/A	String	none plus sign asterisk period diamond triangle square X	N/A	The symbol used to draw data points for the LRV
Line	N/A	String	solid dotted dashed dash dot dash dot dot dot long dashes none	N/A	The symbol(s) used to draw the line for the LRV
Graph Type	N/A	String	Stacked Multi	N/A	Stacked - places each LRV on a separate graph and stacks the graphs on top of each other Multi - places all LRV
Attribute	N/A	String	Raw Engineering	N/A	Plot the raw or engineering value for the LRV State LRVs will always plot the raw value of the LRV
Additional Stack Spectral Settings					
PSD Type	N/A	String	PSD Integrate	N/A	The power spectrum type of the plot
Frequency Axis	N/A	String	Linear Log	N/A	The scaling used in the plot for the Frequency Axis
Power Axis	N/A	String	Linear Log	N/A	The scaling used in the plot for the Power Axis

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.25-2, STA Trend Plot Settings

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Start Time	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The start time for the data to plot
End Time	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The end time for the data to plot
Data Source	N/A	String	Trend Data	N/A	The type of the data to be plotted
Graph Type	N/A	String	Trend Scatter	N/A	Trend – creates a candlestick type plot showing min, max, average, and standard deviation Scatter – plots the min, max, and average as lines
LRV	N/A	String	LRV mnemonic of the data point – column contains 1 or more LRV entry for each LRV.	N/A	The vehicle LRV to plot trending information for The Color, Symbol, and Line information that follows are designated per LRV for Scatter type plots
Color	N/A	String	Blue green cyan purple hot pink dark orange maroon forest green black	N/A	The color of the line/symbol for the LRV
Symbol	N/A	String	none plus sign asterisk period diamond triangle square X	N/A	The symbol used to draw data points for the LRV

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Line	N/A	String	solid dotted dashed dash dot dash dot dot dot long dashes none	N/A	The line type used to draw the line for the LRV

Table 4.25-3, STA Polar Plot Settings

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Data Source	N/A	String	Data Set	N/A	A special type of text file containing columns of data
File	N/A	String	Filename	N/A	The data files to be used for plotting – the file type must agree with the selected Data Source dts dataset file (filename.dts)
Center	N/A	Float	-90, 0, 90	Degrees	The center value of the graph
Rings	N/A	Integer	0 – 10	N/A	The number of rings for the polar graph Default: 5
Spokes	N/A	Integer	5, 10, 15, 20, 30, 40, 45, 60, 90	Degrees	The angle between spokes on the graph Default: 45
Label	N/A	Integer	135, 270	Degree	The angle to place the ring labels at
Datum Name	N/A	String	Dec/Ra Magnitude/Phase	N/A	Dec/Ra – plots the declination vs. right ascension Magnitude/Phase – plots radius vs. Angle
Axis Style	N/A	String	Solid Dotted Dashed Dash Dot Dash Dot Dot Dot Long Dashes	N/A	Line style for the axes
Datum ID	N/A	String	Varies – datum label	N/A	Data series from the .dts (data set) file The Color , Symbol, and Line information that follows are designated per Datum

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Color	N/A	String	blue green cyan purple hot pink dark orange maroon forest green black	N/A	The color of the line/symbol for a Datum
Symbol	N/A	String	none plus sign asterisk period diamond triangle square X	N/A	The symbol used to draw data points for the Datum
Line	N/A	String	solid dotted dashed dash dot dash dot dot dot long dashes none	N/A	The line type used to draw the line for the Datum
Indicate Direction	N/A	String	Off On	N/A	Indicate the direction of each datum

Table 4.25-4, STA Histogram Plot Settings

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Start Time	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The start time for the data to plot
End Time	N/A	String	YYYY-MM-DD HH:MM:SS	Date/Time	The end time for the data to plot
Data Source	N/A	String	Processed Telemetry Data Set	N/A	The type of the data to be plotted
Y Grid	N/A	String	yes no	N/A	Display gridlines along the y-axis
LRV	N/A	String	LRV mnemonic of the data point – column contains 1 or more LRV entry for each LRV.	N/A	The vehicle LRV to plot The Color, Symbol, and Line information that follows are designated per LRV
Color	N/A	String	blue green cyan purple hot pink dark orange maroon forest green black	N/A	The color of the line/symbol for the LRV
Symbol	N/A	String	none plus sign asterisk period diamond triangle square X	N/A	The symbol used to draw data points for the LRV

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Line	N/A	String	solid dotted dashed dash dot dash dot dot dot long dashes none	N/A	The line type used to draw the line for the LRV

4.26 Consolidated Data Delivery Report

Data Mnemonic	DP_NU-L00015-000
Description/ Purpose	Consolidated Data Delivery Reports (CDDRs) are XML formatted files that provide a list of all files that have been delivered to a particular destination. These files are a way for the user to verify all of the files that have been sent to a particular destination. CDDRs are delivered to specified destinations (1 or more) after a configurable number of minutes. The CRC-32 Checksum is used to calculate the checksum of each file indicated in the CDDR. The CRC-32 checksum calculates a checksum based on a cyclic redundancy check as described in ISO 3309. The resulting checksum is four octets in length and is Big Endian ordered.
File-Naming Construct	See the File-Naming Convention for IDPS Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4
File Size	0 files annotated = ~357 bytes 1 file annotated = ~921 bytes Increment size of ~565 bytes per each additional file annotated
File Format Type	XML
Production Frequency	This file is delivered to each destination after a configurable amount of time has passed. The delivery frequency is a configuration of the IDP. 60 min <= Time Period <= Configurable Number (of minutes)
Data Content and Data Format	See Table 4.26-1, Consolidated Data Delivery Report Format, for details and Example 4.26-1, Consolidated Data Delivery Report XML Schema, for the xml schema. Appendix A, Example Data Files, contains examples of CDDRs. The CRC32 algorithm used is provided by the following library: C++ Version 1.2.3 (library: libz.a)

Table 4.26-1, Consolidated Data Delivery Report Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
CDDR	N/A	complexType	Elements: CDDRID start_dateTime stop_dateTime files	N/A	Parent element for the DDRs included in the CDDR Each file record contains its own associated CDDRID
CDDRID	N/A	String	XXXXXXXXXXXX	N/A	A unique numeric string used to identify the request The X's are digits from 0-9
start_dateTime	N/A	String	YYYYMMDD HHMMSSZ	Date Time	UTC Time format without delimiters See the JPSS CDFCB-X Vol. I, 474-00001-01 Section 3 for details These times indicate the duration of time this report covers
stop_dateTime	N/A	String	YYYYMMDD HHMMSSZ	Date Time	UTC Time format without Delimiters. See the JPSS CDFCB-X Vol. I, 474-00001-01 Section 3 for details These times indicate the duration of time this report covers.
Files	N/A	complexType	Elements: num_files file	N/A	Contains the list of included files
num_files	N/A	Integer	integer >= 0	N/A	Indicates the number of data products summarized in the report Also indicates the number of times the following remaining items are repeated

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
File	N/A	complexType	Elements: requestID transferID urID origin domain destination checksum filename size status timestamp	N/A	Repeats for each file
requested	N/A	String	XXXXXXXXXXXX	N/A	A unique numeric string used to identify the request The X's are digits from 0-9
transferID	N/A	String	Up to 32-characters	N/A	The unique identifier for all files transferred from IDPS/DDS to any destination.
Urid	N/A	String	A unique identifier consisting of a 32-character string.	N/A	The unique identifier for JPSS Data Product granules, Auxiliary files, and Ancillary files. Provided in data product metadata as N_Reference_ID
Origin	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, Section 3 for full list of applicable Origins	N/A	Indicates the origin location of the files that were transferred
Domain	N/A	String	See the JPSS CDFCB-X Vol. I, 474-00001-01, Section 3 for full list of applicable Domains	N/A	Indicates the domain location of where the files were transferred to
Destination	N/A	String	Destination as specified in the CDDR request	N/A	Provides the destination (URL/path) of the file records that it applies to

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Checksum	N/A	Long	Unsigned long >= 0	N/A	This is a CRC32 File Checksum value Repeats for each file Represented as decimal Big Endian
Filename	N/A	String	As applies to naming convention	N/A	Repeats for each file
Size	N/A	Long	Unsigned long > 0	Bytes	Repeats for each file
Status	N/A	String	success failure	N/A	Indicates whether or not the file was successfully transferred to the intended destination. A delivery is not considered a “failure” until the configurable number of retries has been attempted and failed. In this case, a single status entry will indicate the delivery failure.
Timestamp	N/A	String	YYYYMMDD HHMMSSZ	Date Time	Repeats for each file

Example 4.26-1, Consolidated Data Delivery Report XML Schema

```
<?xml version="1.0" encoding="UTF-8" ?>

<xsd:schema xmlns:xsd=http://www.w3.org/2001/XMLSchema>

<xsd:complexType:name=”CDDR”>
  <xsd:sequence>
    <xsd:element name=”CDDRID” type=”string” minoccurs=”1”/>
    <xsd:element name=”start_dateTime” type=”string” minoccurs=”1”/>
    <xsd:element name=”stop_dateTime” type=”string” minoccurs=”1”/>
    <xsd:element name=”files” type=”files” minoccurs=”1”/>
  </xsd:sequence>
</xsd:complexType:name=”CDDR”>

<xsd:complexType name=”files”>
  <xsd:sequence>
    <xsd:element name=”num_files” type=”integer” minoccurs=”1”/>
    <xsd:element name=”file” type=”file” minoccurs=”1”/>
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name=”file”>
 <xsd:sequence>
  <xsd:element name=”requestID” type=”string” minoccurs=”1”/>
    <xsd:element name=”transferID” type=”xsd:string” minoccurs=”1”/>
    <xsd:element name=”urID” type=”xsd:string” minoccurs=”1”/>
    <xsd:element name=”origin” type=”xsd:string” minoccurs=”1”/>
    <xsd:element name=”domain” type=”xsd:string” minoccurs=”1”/>
    <xsd:element name=”destination” type=”xsd:string” minoccurs=”1”/>
    <xsd:element name=”checksum” type=”xsd:string” minoccurs=”1”/>
    <xsd:element name=”filename” type=”xsd:string” minoccurs=”1”/>
  <xsd:element name=”size” type=”xsd:integer” minoccurs=”1”/>
```

```
    <xsd:element name=”status” type=”xsd:string” minoccurs=”1”/>
    <xsd:element name=”timestamp” type=”xsd:string” minoccurs=”1”/>
  </xsd:sequence>
</xsd:complexType>
</xsd:schema>

<!--// DTD //-->

<?xml version="1.0" encoding="UTF-8" ?>
<!--
    Consolidated Data Delivery Report DTD/schema file.
-->

<!ELEMENT CDDR ( CDDRID, start_dateTime, stop_dateTime, files ) >
<!ELEMENT files ( num_files, file* ) >
<!ELEMENT file ( requestID, transferID, urID, origin, domain, destination, checksum, filename, size, status, timestamp ) >
<!ELEMENT requestID ( #PCDATA ) >
<!ELEMENT transferID ( #PCDATA ) >
<!ELEMENT urID ( #PCDATA ) >
<!ELEMENT origin ( #PCDATA ) >
<!ELEMENT domain ( #PCDATA ) >
<!ELEMENT destination ( #PCDATA ) >
<!ELEMENT checksum ( #PCDATA ) >
<!ELEMENT filename ( #PCDATA ) >
<!ELEMENT size (  #PCDATA ) >
<!ELEMENT status ( #PCDATA) >
<!ELEMENT timestamp ( #PCDATA ) >
```

4.27 Data Quality Monitoring Ad-Hoc Reports

Data Mnemonic	DP_NU-L00080-005
Description/ Purpose	DQM Ad-hoc Reports are related to data analysis and procedural assessments of selected data products. These reports may be sent to JPSS Authorized Users after the execution of a DQM Procedure and completion of the requested data analysis. The content of the messages is dependent upon the test performed and the JPSS Data Products that are evaluated.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 The Collection Short Name is used in the filename, see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names. Image/graphics files accompanying the HTML are also named using the Auxiliary File-Naming Convention, however, the Collection Short Name is based on the type of plot (e.g., DQM_Image). The version field contains uniquely identifying information (e.g., time, Product ID, field name, etc.). A file containing the settings used in the report is named procedure_<timestamp>.txt
File Size	Varies (10 MiB maximum)
File Format Type	XML
Production Frequency	Dependent on the configuration as defined by the DQE. After a specific type of DQN Procedure or a requested type of data analysis occurs, the DQM is configured to notify one or more Authorized Users.
Data Content and Data Format	See Table 4.27-1, Data Quality Monitoring Ad-hoc Report Format, for details. For email notification the subject line will be the Ad-Hoc Report Name. The message will be inline for email and a stand-alone XML file for File Transfer Protocol (FTP).

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.27-1, Data Quality Monitoring Ad-Hoc Report Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
NPOESSDQMAdHocReport	N/A	ComplexType	Elements: Name DateTime Description Messsage Graphics	N/A	Superset of all attributes used for DQM Ad-Hoc Reports
Name	N/A	String	Data Quality Monitoring Ad-Hoc Report <CollectionShortName> See the JPSS CDFCB-X Vol. I, 474-00001-01, for the list of Collection Short Names for the JPSS Data Products	N/A	Heading which indicates the product that the DQM Ad-Hoc Report is representing Example: Difference comparison for VIIRS-SST-EDR
DateTime	N/A	String	<Origin> DQM <Data Generation Time> For Origin identifiers, see the JPSS CDFCB-X Vol. I, 474-00001-01 Data Generation Time Format: YYYYMMDD HH:MM:SS	N/A	This line of the header indicates the originating central for the message and provides a timestamp (UTC) for when the report was created Example: NESDIS DQM 20081121 04:21:14
Description	N/A	String	Variable	N/A	Indicates information on the type of Ad-hoc Test performed on the data product tested Example: Data comparison between two VIIRS SST EDR data products.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Message	N/A	String	Variable	N/A	This is a free-form text message that provides an explanation of the Data Test associated with this message – captures textual about the Ad-Hoc Report based on the test type being reported Example: 36 pixels in the granule exceeded the tested threshold as indicated in the table below.
Graphics	N/A	ComplexType	Elements: GraphicName Graphic	N/A	Parent element for graphics included in a DQM Ad-Hoc Report This is an optional element – may occur 0 or many times
GraphicName	N/A	String	Variable	N/A	Name associated with graphic
Graphic	N/A	String	0-9 a-f	Hexadecimal	Provides a hexadecimal representation of data about the Ad-Hoc Report based on the test type being reported

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Example 4.27-1, XML Schema for Data Quality Monitoring Ad-Hoc Report

```
<?xml version="1.0" encoding="ISO-8859-1"?>

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<!-- NPOESS DQM Ad-Hoc Report Generalized XML Schema -->

<xsd:annotation>
  <xsd:documentation xml:land="en">
    NPOESS DQM Ad-Hoc Report XML Schema
  </xsd:documentation>
</xsd:annotation>

<xsd:element name="NPOESSDQMAdHocReport" type="DQMAdHocReportType" />

<xsd:complexType name="DQMAdHocReportType">
  <xsd:sequence>
    <xsd:element name="Name" type="xsd:string" minOccurs="1" maxOccurs="1" />
    <xsd:element name="DateTime" type="xsd:string" minOccurs="1" maxOccurs="1" />
    <xsd:element name="Description" type="xsd:string" minOccurs="1" maxOccurs="1" />
    <xsd:element name="Message" type="xsd:string" minOccurs="1" maxOccurs="1" />
    <xsd:element name="Graphics" type="GraphicsType" minOccurs="0" />
  </xsd:sequence>
</xsd:complexType>

<xsd:complexType name="GraphicsType">
  <xsd:sequence>
    <xsd:element name="GraphicName" type="xsd:string" minOccurs="1" maxOccurs="1" />
    <xsd:element name="Graphic" type="xsd:string" minOccurs="1" maxOccurs="1" />
  </xsd:sequence>
</xsd:compleType>

</xsd:schema>
```

```
<!-- NPOESS DQM Ad-Hoc Reports Format XML DTD -->
<?xml version="1.0"?>
<!ELEMENT NPOESSDQMAdHocReport( Name, DateTime, Description, Message, Graphics* )>
<!ELEMENT Graphics ( GraphicName, Graphic )>
<!ELEMENT Name (#PCDATA)>
<!ELEMENT DateTime (#PCDATA)>
<!ELEMENT Description (#PCDATA)>
<!ELEMENT Message (#PCDATA)>
<!ELEMENT GraphicName (#PCDATA)>
<!ELEMENT Graphic (#PCDATA)>
```

4.28 CERES APID Telemetry Files

Data Mnemonic	C3_NU-LW2170-000
Description/ Purpose	The Clouds and Earth Radiance Energy System (CERES) APID Telemetry files contain the raw, application packet data as received from the spacecraft for CERES APIDs. The data is used by Langley Research Center to analyze the instrument. C3S Satellite Operations Telemetry and Command (SOT&C) and Stored Telemetry Analysis (STA) **ECLIPSE™** save the data directly to a file on a telemetry stream basis, i.e. an APID received in RT-TLM is saved to a different file than an APID received for S-TLM. Nominally, the file is closed at the completion of a contact. The file contains application packets in binary as defined in the NPP S-Band Data Format ICD, GSFC 429-04-02-27 in the order that each packet is received. Files are posted to the C3S Extranet Web Server.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4 When using the File-Naming Convention for Auxiliary Data Formats the following applies to the CERES APID Telemetry Files: The production and effectivity start timestamp fields will be set to the time the file is created in UTC. The effectivity stop timestamp field will be set to “ee0000000000000000z”. The Version Number field will be used as follows: <Tool>-<APID> Where the options for “Tool” are: RP0 Real-time telemetry from T&C– Primary Configuration RS0 Real-time telemetry from T&C – Secondary Configuration RT0 Real-time telemetry from T&C – Tertiary Configuration SP0 STA – Primary Configuration SS0 STA – Secondary Configuration ST0 STA – Tertiary Configuration The real-time telemetry stream will produce data files with the Rx0 “Tool”, where x = P, S, or T. The stored telemetry stream will produce files with the Sx0 “Tool”. While multiple configurations are possible (P, S, T), only one will be provided to the extranet web server. There is no difference in product formats for different configurations. The options for APID are any valid CERES APID number. For the Collection Short Name field – see the JPSS CDFCB-X Vol. I, 474-00001-01, Appendix B.

File Size	Approximately 18 – 118 KiB/file depending on the rate of the telemetry
File Format Type	Binary
Production Frequency	Dynamic, as received
Data Content and Data Format	See Table 4.28-1, Application Packet Format for details. The file contains application packets as received from the spacecraft.

Table 4.28-1, Application Packet Format

Field Name	Length	Range of Values	Comments
Version Number	3 bits	000	Indicates a CCSDS version-1 packet
Type Indicator	1 bits	0	Indicates a telemetry packet
Secondary Header Flag	1 bits	0 - 1	Indicates whether a Secondary Header is present For LEO&A packets, there is never a secondary header present. For Housekeeping packets, there is always a secondary header present.
APID	11 bits	0 – 2047	See the NPP S-Band Data Format ICD, GSFC-429-04-02-27, for APID assignments.
Sequence Flags	2 bits	0b 11 indicates a standalone packet	For LEO&A and Housekeeping packets, there are only standalone packets.
Packet Sequence Count	14 bits	0 – 16383	Provides a binary counter tag for each source packet for each APID.
Packet Data Length	2 bytes	0 – 65535	Number of octets minus one that are contained in the Source Data field.
Secondary Header	8 bytes	See Table 4.28-2, Secondary Header Field Contents for field description and range of values.	Only valid when the Secondary Header Flag value is 1. Present for Housekeeping APIDs Not present for LEO&A APIDs
Source Data	1 - 65536 bytes	Variable	The format of the data contained within the source data field of the packet is defined and controlled by the reference documents as specified in the NPP S-Band Data Format ICD, GSFC-429-04-02-27.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.28-2, Secondary Header Field Contents

Field Name	Length	Description	Range
Day	16 bits	Number of days since 1 January 1958, 00:00:00	**0 – 65,535**
millisecond of day	32 bits	Number of milliseconds since start of day	0 - 86,399,999
microseconds	16 bits	Number of microseconds of each millisecond	0 - 999

4.29 CERES Solar Ephemeris Data

Data Mnemonic	C3_NU-LW2170-001
Description/Purpose	A CERES Solar Ephemeris file provides the relative position of the NPP satellite to the sun. Satellite and solar ephemeris files provide the basis for calculating CERES Solar ephemeris data. This data is defined by calculating azimuth and elevation angles from the satellite to the sun. The azimuth angle is measured from 0 to 360 degrees, *along* the X-Y plane of the spacecraft. The angle is in reference to the –Y axis (0 degrees) of the satellite and is positive in the clockwise direction. The elevation angle is measured from +90 to -90 degrees, *relative* to the X-Y plane (0 degrees) of the spacecraft. The angle is positive in the direction of the –Z axis and negative in the direction of the +Z axis. The resulting CERES Solar Ephemeris file consists of a series of time stamped azimuth and elevation angles. The duration of the ephemeris file and the time between data points is configurable by the user. Only during anomalous situations, for instance, if there is an error in a CERES Solar Ephemeris file, will an out-of-cycle file be produced. Any out-of-cycle additions or updates to the web server files will be procedurally announced (notification by mission notice, email, phone, etc.). Each file is posted to the C3S Extranet Web Server and is maintained there for a certain number of days (configurable by C3S). The file may also be archived for historical purposes.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, Section 3.4 The Collection Short Name is used in the filename – see the JPSS CDFCB-X Vol. I, 474-00001-01, Appendix B for the applicable Collection Short Names.
File Size	Maximum file size 20 MiB (approximately 90 days of data)
File Format Type	Text-formatted ASCII file
Production Frequency	Nominally, once per day
Data Format and Data Structure	See Table 4.29-1, CERES Solar Ephemeris Data Records, for details. Note that each field in Table 4.29-1, CERES Solar Ephemeris Data Records, comprise a single line of the ephemeris body file.

Table 4.29-1, CERES Solar Ephemeris Data Records

Column	Length (Bytes)	Data Type	Range of Values	Units	Comments
1	1	String	“	N/A	Quotation Mark
02-05	4	String	1958 - 2137	year	4 Digit Year
06	1	String	-	N/A	Dash Separator
07-08	2	String	01-12	month	2 Digit Month
09	1	String	-	N/A	Dash Separator
10-11	2	String	01-31	day	2 Digit Day
12	1	String	Blank	N/A	Separator
13-14	2	String	0-24	hour	2 digit Hour
15	1	String	:	N/A	Colon Separator
16-17	2	String	0-59	minute	2 Digit Minute
18	1	String	:	N/A	Colon Separator
19-27	9	String	00.000000 – 60.999999 (Seconds goes to 60 for leap seconds)	second	2 digit Seconds and decimal microseconds SS.SSSSSS
28	1	String	“	N/A	Quotation Mark
29-49	21	String	real	degree	Azimuth
50-70	21	String	real	degree	Elevation

4.30 Data Delivery Checksum

Data Mnemonic	DP_NU-L00025-000
Description/ Purpose	Data Delivery Checksum files are files that provide the CRC-32 checksum associated with a particular data product as delivered to a particular destination. These files are a way for the user to verify the integrity of the files that the IDP has transmitted to each destination. The delivery of these files is specified on a per-role basis at the IDP. Each checksum file is delivered to the same destination as its source HDF5 file. The checksum files are created only for HDF5 files, therefore checksum files do not apply to files like DDRs or CDDRs. The CRC-32 checksum calculates a checksum based on a cyclic redundancy check as described in ISO 3309. The resulting checksum is four octets in length and is Big Endian ordered.
File-Naming Construct	The file-naming convention for the checksum file is dependent upon the source HDF5 file. Each file shares the name of the source HDF5 file, the only change is to the file extension which will be modified from .h5 to .crc See the File-Naming Conventions provided in the JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4, for the relevant conventions.
File Size	Maximum of 329 Bytes
File Format Type	ASCII
Production Frequency	As needed, based on IDP configuration and role used for request.
Data Content and Data Format	See Table 4.30-1, Data Delivery Checksum Format, for details. The CRC-32 algorithm used is provided by the following library: C++ Version 1.2.3 (library: libz.a)

Table 4.30 -1, Data Delivery Checksum Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Filename	N/A	String	See the JPSS CDFCB-X Vol. I for the applicable file-naming conventions	N/A	Provides the filename of the HDF5 file that the checksum is calculated against
Checksum	N/A	Long	Unsigned long >= 0	N/A	This is a CRC-32 File Checksum value Represented as decimal Big Endian

APPENDIX A: EXAMPLE DATA FILES

Example A-1, Factory Memory Loads Example (Sensor Calibration Tables Updates)

```
<?xml version="1.0" encoding="utf-8"?>

<!-- === Memory Load Input XML === -->

<memoryLoadInput xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
xsi:noNamespaceSchemaLocation="memoryLoadInput.xsd">
  <spacecraft>N01</spacecraft>
  <destination>TLE</destination>
  <dateCreated>2000-03-06T21:00:00Z</dateCreated>
  <uplinkInterval>
    <startInterval>2000-06-06T21:00:00Z</startInterval>
    <endInterval>2000-09-06T21:00:00Z</endInterval>
  </uplinkInterval>
  <sizeInBytes>256</sizeInBytes>
  <memBlock>
    <tableId>105</tableId>
    <tableOffset>360</tableOffset>
    <sizeInBytes>224</sizeInBytes>
    <data>
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
```

0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
0A0E0A0E0A0E0A0E0A0E0A0E0A0E0A0E
  </data>
 </memBlock>
</memoryLoadInput>

Example A-2, Data Quality Threshold Tables Example

```
<?xml version="1.0" encoding="UTF-8"?>

<!-- DQM Threshold Check file / table example -->

<!DOCTYPE dqmtable SYSTEM "sst_edr_viirs_npp_DQMThresholdTable.dtd">

<!-- DQM Table declaration and mandatory type -->

<dqmtable type="DQThreshold" >

<!--
  Filter/data on this DQT Check table.

  'spacecraft'   - The spacecraft represented by this DQ Threshold XML file.
  'sensor'       - The sensor represented by this DQ Threshold XML file.
  'category'     - The category represented by this DQ Threshold XML file.
  'product'      - The product represented by this DQ Threshold XML file.
  'csname'       - the Collection Short Name for the spacecraft, sensor (etc.)
                   represented by this file.
-->

  <dqthresholdchecks spacecraft="npp" sensor="viirs" category="edr" product="sst" csname="VIIRS-SST-EDR" >

  <!--
    List of DQ Checks to perform.

'id'                - unique ID for this check. Corresponds  to the response
                      for that check in the Response file.
'name'              - the name of the check/test.
'description'       - a description of the test/check.
'testtype’          - the test being performed for this check. Must be one of:
```

```
                    "Less Than", "Greater Than", "In Range", "Out of Range"
'fieldtype'       - the type of the field (and 'min'/'max') for use in
                    validating the value. Usually one of: "int", "float",
                    “long", "double", or "date".
'min'             - the minimum value of the field data for the given test.
                    Such as "Less Than" "263". Can be null depending on the
                    'testtype' as indicated by a "<min/>
'max'             - the maximum value of the field data for the given test.
                    Such as "Greater Than" "724". Can be null depending on
                    the 'testtype' as indicated by a "<max/>
'thresholdcount'  - the number of times that a threshold check must fail
                    before a DQN is generated.
'active'          - Is DQN interested in failures of this check.
-->

  <dqtcheck id="0" >
    <name>degrees</name>
    <description>A DQT check description.</description>
    <testtype>Less Than</testtype>
    <fieldtype>int</fieldtype>
    <min>100</min>
    <max/>
    <thresholdcount>20</thresholdcount>
    <active>true</active>
  </dqtcheck>
  <dqtcheck id="1" >
    <name>minutes</name>
    <description>A DQT check description.</description>
    <testtype>Out of Range</testtype>
    <fieldtype>int</fieldtype>
    <min>0</min>
    <max>60</max>
    <thresholdcount>4</thresholdcount>
```

```
      <active>true</active>
    </dqtcheck>
    <dqtcheck id="2" >
      <name>hours</name>
      <description>A DQT check description.</description>
      <testtype>In Range</testtype>
      <fieldtype>int</fieldtype>
      <min>0</min>
      <max>24</max>
      <thresholdcount>7</thresholdcount>
      <active>true</active>
    </dqtcheck>
  </dqthresholdchecks>
</dqmtable>
```

Example A-3, Mission Schedule Example


```
<?xml version="1.0"?>

<?xml-stylesheet type="text/xsl" href="exampleMissionSchedule.xsl" ?>

<missionSchedule xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="exampleMissionSchedule.xsd">
YYYY-MM-DD HH:MM:SS
  <name>Test1</name>
  <startTime>2010-03-03 00:00:00</startTime>
  <stopTime>2010-03-04 00:00:00</stopTime>
  <events>
    <event>
      <eventId>N01_VIIRS_Out</eventId>
      <startTime>2010-03-03 16:38:00</startTime>
      <stopTime>2010-03-04 16:38:00</stopTime>
      <duration>1,440</duration>
      <eventType>Outage</eventType>
      <sc_gs>C1</sc_gs>
      <resource> N01_VIIRS</resource>
      <description>Visible Infrared Imager and Radiometer Suite Outage</description>
    </event>
  </events>
  <tasks>
    <task>
      <taskId> N01_ATMS_ON</taskId>
      <startTime>2010-03-03 16:38:00</startTime>
      <stopTime>2010-03-04 16:38:00</stopTime>
      <duration>1,440</duration>
      <taskType>Collection</taskType>
      <sc_gs>C1</sc_gs>
      <resource> N01_ATMS</resource>
      <description>Turn on Advanced Technology Microwave Sounder</description>
```

```
  </task>
  <task>
    <taskId> N01_CMIS_ON</taskId>
    <startTime>2010-03-03 00:00:00</startTime>
    <stopTime>2010-03-04 00:00:00</stopTime>
    <duration>1,440</duration>
    <taskType>Collection</taskType>
    <sc_gs> N01</sc_gs>
    <resource> N01_CMIS</resource>
    <description>Turn on Conical-scanning Microwave Imager/Sounder</description>
  </task>
  <task>
    <taskId> N01_CrIS_ON</taskId>
    <startTime>2010-03-03 00:00:00</startTime>
    <stopTime>2010-03-04 00:00:00</stopTime>
    <duration>1,440</duration>
    <taskType>Collection</taskType>
    <sc_gs> N01</sc_gs>
    <resource>C1_CrIS</resource>
    <description>Turn on Cross-track Infrared Sounder</description>
  </task>
  <task>
    <taskId> N01_SS_ON</taskId>
    <startTime>2010-03-03 00:00:00</startTime>
    <stopTime>2010-03-04 00:00:00</stopTime>
    <duration>1,440</duration>
    <taskType>Collection</taskType>
    <sc_gs>C1</sc_gs>
    <resource> N01_SS</resource>
    <description>Turn on Survivability Sensor</description>
  </task>
  <task>
<taskId> N01_VIIRS_ON</taskId>
```

```
      <startTime>2010-03-03 00:00:00</startTime>
      <stopTime>2010-03-04 00:00:00</stopTime>
      <duration>1,440</duration>
      <taskType>Collection</taskType>
      <sc_gs> N01</sc_gs>
      <resource>C1_VIIRS</resource>
      <description>Visible Infrared Imager and Radiometer Suite ON</description>
    </task>
    <task>
      <taskId> N01_A-DCS_ON</taskId>
      <startTime>2010-03-03 00:00:00</startTime>
      <stopTime>2010-03-04 00:00:00</stopTime>
      <duration>1,440</duration>
      <taskType>Collection</taskType>
      <sc_gs> N01</sc_gs>
      <resource> N01_A-DCS</resource>
      <description>Turn on Surface Data Collection</description>
    </task>
  </tasks>
</missionSchedule>
```

Example A-4, External Mission Support Data Server Data List Example
Generated 2007-10-26 20:56.12.345000Z

e:\ftproot\MSDS:
ANC
AUXILIARY
DQM
MSDS_DataList.txt

e:\ftproot\MSDS\ANC:
ODAD

e:\ftproot\MSDS\ANC\ODAD:
off_NAAPS-06HR-ANC_NAAPS_FNMOC_006f_20030125_200301250000z_20030125000000z_ee20100101000000z_np.grib2
off_NCEP-GFS-06HR-ANC_GFS_NCEP_006f_20020906_200209060600z_20020906060000z_ee20020906085959z_np.grib2
off_NCEP-GFS-06HR-ANC_GFS_NCEP_006f_20020907_200209070600z_20020907060000z_ee20020907085959z_np.grib2
off_NCEP-GFS-06HR-ANC_GFS_NCEP_006f_20020908_200209080600z_20020908060000z_ee20020908085959z_np.grib2
off_USNO-PolarWander-UT1-
ANC_Ser7_USNO_000f_20030120_200301200000z_20030120000000z_ee20100101000000z_np.dat

e:\ftproot\MSDS\AUXILIARY:
hlm_monitoring
mission_notices
mission_schedules
tle

e:\ftproot\MSDS\AUXILIARY\hlm_monitoring:
HLM_Report_2007-08-07_153601.xml
HLM_Report_2007-08-08_153601.xml

HLM_Report_2007-08-09_153601.xml

e:\ftproot\MSDS\AUXILIARY\mission_notices:
mission_notice_20070801190328.txt

e:\ftproot\MSDS\AUXILIARY\mission_schedules:

Mission-Schedule-AUX_npp_20070725212743Z_20070727000000Z_ee20070820000000Z_-_c3s_ops_all_ops.xml

e:\ftproot\MSDS\AUXILIARY\tle:
Pred-Post-Mnvr-TLE-Sets_npp_20070806164727Z_20070806161541Z_ee00000000000000Z_-_c3s_ops_all_ops.txt
TLE-AUX_npp_20070806164727Z_20070806161541Z_ee00000000000000Z_-_c3s_ops_all_ops.txt

e:\ftproot\MSDS\DQM:
CoeffTables

e:\ftproot\MSDS\DQM\CoeffTables:

Example A-5.0, Data Delivery Report Examples – Single File Delivered


```xml
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>

 <DDR>
  <start_dateTime>20050825 130320Z</start_dateTime>
  <stop_dateTime>20050825 140321Z</stop_dateTime>
  <files>
     <num_files>1</num_files>
     <file>
        <requestID>374629483746</requestID>
        <transferID>1234698739374823452330485758472 3</transferID>
        <urID>43132603-11104-9b9dea63-deb2216a</urID>
        <origin>ops</origin>
        <domain>noaa</domain>
        <destination>ftp://somedomain.com/path/folder</destination>
        <checksum>1458667249</checksum>
        <filename>RAVMO-CrIS-SDR-GEO_NPP_d2003125_t101153_e10121_b-1_c200582513353_devl_Tst.h5</filename>
        <size>128552</size>
        <status>success</status>
        <timestamp>20050825 130434Z</timestamp>
      </file>
  </files>
 </DDR>
```

Example A-5.1, Data Delivery Report Examples – No Files Delivered


```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>

<DDR>
  <start_dateTime>20050825 130320Z</start_dateTime>
  <stop_dateTime>20050825 140321Z</stop_dateTime>
  <files>
     <num_files>0</num_files>
  </files>
</DDR>
```

Example A-6.0, DELETED

Example A-6.1, DELETED

Example A-7, DELETED

Example A-8, Stored Telemetry Analysis Examples – SDS Telemetry Report (ASCII - Snippet)

```
# Filename: npp_sds_20051018_122607_929153.txt
# Entries: 2027
# Time  LRV  raw  engr
"2005-09-12 14:43:19.000000" NBX1PW2 0.000000e+00 Off
"2005-09-12 14:43:19.000000" NBX1P9V 1.270000e+02 1.043051e+01
"2005-09-12 14:43:19.000000" NBX1PBPN 0.000000e+00 Off
"2005-09-12 14:43:19.000000" NBX1CONV 0.000000e+00 Off
"2005-09-12 14:43:19.000000" NBX1DATA 0.000000e+00 RTPBK
"2005-09-12 14:43:19.000000" NBX1DSU 0.000000e+00 DSU2
"2005-09-12 14:43:19.000000" NBX1RTPN 0.000000e+00 Off
"2005-09-12 14:43:19.000000" NBX2PW1 0.000000e+00 Off
"2005-09-12 14:43:19.000000" NBX2PW2 0.000000e+00 Off
"2005-09-12 14:43:19.000000" NBX2P9V 1.270000e+02 1.006602e+01
"2005-09-12 14:43:19.000000" NBX2PBPN 0.000000e+00 Off
"2005-09-12 14:43:19.000000" NBX2CONV 0.000000e+00 Off
"2005-09-12 14:43:19.000000" NBX2DATA 0.000000e+00 RTPBK
"2005-09-12 14:43:19.000000" NBX2DSU 0.000000e+00 DSU2
"2005-09-12 14:43:19.000000" NBX2RTPN 0.000000e+00 Off
"2005-09-12 14:43:19.000000" HRDX1PW1 0.000000e+00 Off
"2005-09-12 14:43:19.000000" HRDX1PW2 0.000000e+00 Off
"2005-09-12 14:43:19.000000" HRDX2PW2 0.000000e+00 Off
"2005-09-12 14:43:19.000000" HRDX2PW1 0.000000e+00 Off
"2005-09-12 14:43:19.000000" SMDX1A1 0.000000e+00 Disarmed
"2005-09-12 14:43:19.000000" SMDX1A2 0.000000e+00 Disarmed
"2005-09-12 14:43:19.000000" SMDX1PW1 0.000000e+00 Off
"2005-09-12 14:43:19.000000" SMDX1PW2 0.000000e+00 Off
"2005-09-12 14:43:19.000000" SMDX2A1 0.000000e+00 Disarmed
"2005-09-12 14:43:19.000000" SMDX2A2 0.000000e+00 Disarmed
"2005-09-12 14:43:19.000000" SMDX2PW1 0.000000e+00 Off
"2005-09-12 14:43:19.000000" SMDX2PW2 0.000000e+00 Off
"2005-09-12 14:43:20.000000" NBX1SSR 1.270000e+02 1.270000e+02
```

"2005-09-12 14:43:20.000000" NBX2SSR 1.270000e+02 1.270000e+02
"2005-09-12 14:43:20.000000" HRDXDMA 3.000000e+00 3.000000e+00
"2005-09-12 14:43:20.000000" HRDX1P10V 1.270000e+02 9.474200e+00
"2005-09-12 14:43:20.000000" HRDX1P5V 1.270000e+02 4.787900e+00
"2005-09-12 14:43:20.000000" HRDX1SSR 1.270000e+02 1.270000e+02
"2005-09-12 14:43:20.000000" HRDX2P10V 1.270000e+02 9.448800e+00
"2005-09-12 14:43:20.000000" HRDX2P5V 1.270000e+02 4.775200e+00
"2005-09-12 14:43:20.000000" HRDX2SSR 1.270000e+02 1.270000e+02
"2005-09-12 14:43:20.000000" SMDXDMA 3.000000e+00 3.000000e+00
"2005-09-12 14:43:20.000000" SMDX1P10V 1.270000e+02 9.512300e+00
"2005-09-12 14:43:20.000000" SMDX1P5V 1.270000e+02 4.787900e+00
"2005-09-12 14:43:20.000000" SMDX1SSR 1.270000e+02 1.270000e+02

Example A-9, DELETED

Example A-9.0.1, Stored Telemetry Analysis Examples – State Checking Report (ASCII)
Evaluation Detailed Summary

USER ID: kbenz

VEHICLE: NPP

JOB TYPE: State Checking

HOST: NPER25534

RUN TIME: 2004-06-03 17:38:52.743849

END TIME: 2004-06-03 17:38:56.259606

HISTORY START TIME: 1995-01-01 00:00:00.000000

HISTORY STOP TIME: 1995-01-01 00:05:00.000000

PROCESSED TM HISTORIES READ:
c:/npoess/install_A/evl/cmn/runtime/general/vehicles/npp/hist/mixedTEST.ptm

LRV ID	STATE BOOLEAN ID	VALID VIOLATION SET	FIRST VIOLATION TIME	LAST VIOLATION TIME	VIO TIME (MIN)	% COV

C000212	(1)	1995-01-01 00:01:00	1995-01-01 00:04:05	0.250	99.667	

SET ID	VALID STATES
1	SUN

Example A-9.1, Stored Telemetry Analysis Examples – Report Request Form (Single LRV Report)


```xml
<?xml version="1.0"?>

<Report_Request xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="reportRequest.xsd">
  <Report_Type Value=".plt"/>
  <Title Value="ExtranetExampleOneLrvReportRequest"/>
  <Graph_Style Value="Stacked YT Step"/>
  <Vehicle_Id Value="NPP"/>
  <Start_Time Value="2004-02-28T07:08:09.0"/>
  <End_Time Value="2005-03-15T10:11:12.555"/>
  <Lrvs>
    <Lrv>
      <Lrv_Name Value="lrv2Id"/>
      <Attribute Value="Engr"/>
      <Minimum Value=".001"/>
      <Maximum Value="99999"/>
      <Auto_Scale Value="0"/>
      <Color Value="black"/>
      <Symbol Value="0"/>
      <Line_Style Value="0"/>
    </Lrv>
  </Lrvs>
</Report_Request>
```

Example A-9.1.1, DELETED

Example A-9.2, DELETED

Example A-9.2.2, Stored Telemetry Analysis Examples – STA Trend Reports (ASCII)

Evaluation Detailed Summary

USER ID: kbenz
VEHICLE: NPP

JOB TYPE: Trend / Statistics

HOST: NPER25534

RUN TIME: 2004-06-07 20:13:01.402750

END TIME: 2004-06-07 20:13:18.468750

HISTORY START TIME: 1995-01-01 00:00:00.000000

HISTORY STOP TIME: 1995-01-01 00:05:00.000000

PROCESSED TM HISTORIES READ:
p:\kbenz_swic2_b1.3\FDA\runtime\general\vehicles/npp/hist/mixedTEST.ptm

TREND FILE LOCATION:
H:\Trending/evalStats.2004-06-07_20_13_01.402750/

BOOLEAN # WILD

LRV ID	# OCCURS PROCESSED	POINTS SUPPRESSED	POINTS SUPPRESSED	# RECORDS CREATED
A000039	300	0	0	5
E000301_TEST	300	228	0	1

EXPRESSION ID	EXPRESSION
TEST	A000039.engr>75

SUMMARY OF TREND RECORDS CREATED:

A000039 (NON-OVERLAPPING):

1995-01-01 00:00:29.999880 100.000% coverage

min: -100 max: -13.89999961853 avg: -47.56812359629 std dev: 34.07886168276

1995-01-01 00:01:29.999640 100.000% coverage

min: -110 max: 110 avg: -16.95134780539 std dev: 92.4997588202

1995-01-01 00:02:29.999400 100.000% coverage

min: -90 max: 110 avg: 2.585183674068 std dev: 79.15982935735

1995-01-01 00:03:29.999160 100.000% coverage

min: -80 max: 92.5 avg: 44.43293753943 std dev: 53.09837218834

1995-01-01 00:04:29.998920 98.335% coverage

min: -72.19999694824 max: 80 avg: -35.22693844595 std dev: 46.75423467768

E000301_TEST ("ENTIRE TIMESPAN"):

1995-01-01 00:02:30.000000 24.000% coverage

min: 30 max: 30 avg: 30 std dev: 0

Example A-9.3, DELETED

Example A-10, KSAT Ground Contact Schedule Example

```
NPP,SVL,ADD,10/27/07,300,01:06:53,10/27/07,300,01:31:55,00:25:02,TR01,2115
NPP,SVL,ADD,10/27/07,300,02:47:08,10/27/07,300,03:12:08,00:25:00,TR01,2116
NPP,SVL,ADD,10/27/07,300,04:27:08,10/27/07,300,04:52:15,00:25:07,TR01,2117
NPP,SVL,ADD,10/27/07,300,06:06:54,10/27/07,300,06:32:33,00:25:39,TR01,2118
NPP,SVL,ADD,10/27/07,300,07:47:25,10/27/07,300,08:13:01,00:25:36,TR01,2119
NPP,SVL,ADD,10/27/07,300,09:29:30,10/27/07,300,09:53:48,00:24:18,TR01,2120
NPP,SVL,ADD,10/27/07,300,11:10:35,10/27/07,300,11:34:51,00:24:16,TR01,2121
NPP,SVL,ADD,10/27/07,300,12:53:14,10/27/07,300,13:16:22,00:23:08,TR01,2122
NPP,SVL,ADD,10/27/07,300,14:36:35,10/27/07,300,14:58:20,00:21:45,TR01,2123
NPP,SVL,ADD,10/27/07,300,16:19:43,10/27/07,300,16:40:18,00:20:35,TR01,2124
```

Example A-11, High Rate Data/Low Rate Date Monitoring Report Example (Snippet)


```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="Example Stylesheet.xsl"?>

<HLM_Report xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <SCID>NPP</SCID>
  <START_TIME>Wed Aug 31 10:13:18.659 2005</START_TIME>
  <ANTENNA>SG4</ANTENNA>

  <TAG name="Demodulator Status">
    <TIMESTAMP>Wed Aug 31 10:13:18.659 2005</TIMESTAMP>
    <DEVICE>HRD Receiver Cortex Global</DEVICE>
    <VALUE>OK</VALUE>
  </TAG>

  <TAG name="Test Modulator Status">
    <TIMESTAMP>Wed Aug 31 10:13:18.659 2005</TIMESTAMP>
    <DEVICE>HRD Receiver Cortex Global</DEVICE>
    <VALUE>OK</VALUE>
  </TAG>

  <TAG name="Data Processing Status">
    <TIMESTAMP>Wed Aug 31 10:13:18.659 2005</TIMESTAMP>
    <DEVICE>HRD Receiver Cortex Global</DEVICE>
    <VALUE>OK</VALUE>
  </TAG>

  <TAG name="Cortex Miscellaneous Alarms">
    <TIMESTAMP>Wed Aug 31 10:13:18.659 2005</TIMESTAMP>
    <DEVICE>HRD Receiver Cortex Global</DEVICE>
    <VALUE>OK</VALUE>
  </TAG>
```

```
<TAG name="Carrier PLL status">
  <TIMESTAMP>Wed Aug 31 10:13:18.659 2005</TIMESTAMP>
  <DEVICE>HRD Receiver Cortex Demodulator Channel A</DEVICE>
  <VALUE>Acquisition</VALUE>
</TAG>

<TAG name="IF level">
  <TIMESTAMP>Wed Aug 31 10:13:18.659 2005</TIMESTAMP>
  <DEVICE>HRD Receiver Cortex Demodulator Channel A</DEVICE>
  <VALUE>0.000000  </VALUE>
</TAG>
```

Example A-12, End of Contact Report Example (Snippet)


```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="eoc.xsl"?>

<EndOfContactReport xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://www.w3.org/2001/XMLSchema-instance">
    <Statistics>
        <Spacecraft>NPP</Spacecraft>
        <CommandCount>
            <SpacecraftCommands>0</SpacecraftCommands>
            <GroundCommands>0</GroundCommands>
        </CommandCount>
        <AlarmCount>
            <Critical>4</Critical>
            <Warning>5</Warning>
            <Informational>190</Informational>
            <Acknowledged>0</Acknowledged>
        </AlarmCount>
    </Statistics>
    <PlannedActivites/>
    <ActualActivites>
        <ALARM RTLText="Error reading plan file &quot;NPOESS_test_.ap&quot; (No such
file or directory)" Severity="Critical" Subsystem="AUT_SC" Time="04/30/2007 20:00:00"
Type="ECLP"/>
        <RTLMSG Number="1004" RTLText="Error reading plan file
&quot;NPOESS_test_.ap&quot; (No such file or directory)" ReportingCSC="AUT_SC"
Subsystem="20" Time="04/30/2007 20:00:00" Type="Critical"/>
        <ALARM RTLText="Reverting back to the original plan
&quot;D:\npoess\install_A\ecl\npp\all_sessions\logs\export\plans\rs0\saved_plan_file_rs0.pps&q
uot;" Severity="Info" Subsystem="AUT_SC" Time="04/30/2007 20:00:00" Type="ECLP"/>
        <RTLMSG Number="3003" RTLText="Reverting back to the original plan
&quot;D:\npoess\install_A\ecl\npp\all_sessions\logs\export\plans\rs0\saved_plan_file_rs0.pps&q
uot;" ReportingCSC="AUT_SC" Subsystem="20" Time="04/30/2007 20:00:00" Type="Info"/>
        <PROC Name="&quot;teardown.prc&quot;." State="Started" Time="04/30/2007
20:00:30"/>
        <ALARM RTLText="PROC Started: &quot;teardown.prc&quot;." Severity="Info"
Subsystem="AUT_SC" Time="04/30/2007 20:00:30" Type="ECLP"/>
        <RTLMSG Number="3011" RTLText="PROC Started: &quot;teardown.prc&quot;."
ReportingCSC="AUT_SC" Subsystem="20" Time="04/30/2007 20:00:30" Type="Info"/>
        <PROC Name="&quot;teardown.prc&quot;." State="Completed" Time="04/30/2007
20:00:30"/>
        <ALARM RTLText="PROC Completed: &quot;teardown.prc&quot;." Severity="Info"
Subsystem="AUT_SC" Time="04/30/2007 20:00:30" Type="ECLP"/>
        <RTLMSG Number="3012" RTLText="PROC Completed: &quot;teardown.prc&quot;."
ReportingCSC="AUT_SC" Subsystem="20" Time="04/30/2007 20:00:30" Type="Info"/>
```

<PROC Name=""setup.prc"." State="Started" Time="04/30/2007 20:01:00"/>
RP0ScClient

Example A-13, DELETED

Example A-14, DELETED

Example A-15, DELETED

Example A-16, DELETED

Example A-17.0, Example A-17.0, Software and Release Package Delivery Manifest Examples


```xml
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>

  <ReleasePackage
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="file:Manifest.xsd">
    <delivery_datetime>200508250830Z</delivery_datetime>
    <files>
      <num_files>1</num_files>
      <file>
       <checksum>2774395cac046bf2fd1898ebed8a5f9a</checksum>
       <filename>example_datafile.c</filename>
       <size>128552</size>
        <timestamp>20050825130434Z</timestamp>
      </file>
    </files>
    <rp_matrix>
          <softwareRPfilename>NPOESS-Software-RP_Full_20100812_ext_I1.5.02.03-0-aix5.3.noarch.rpm</softwareRPfilename>
          <docRPfilename>NPOESS-Documentation-RP_Full_20100812_ext_I1.5.02-0-aix5.3.noarch.rpm</docRPfilename>
            <testRPfilename>NPOESS-Test-Data-RP_Full_20100812_ext_I1.5.02-0-aix5.3.noarch.rpm</testRPfilename>
          <dataRPfilename>NPOESS-Support-Data-RP_Full_20100812_I1.5.02-0-aix5.3.noarch.rpm</dataRPfilename>
    </rp_matrix>
  </ReleasePackage>
```

Example A-18.0, Consolidated Data Delivery Report Examples – Single File Delivered


```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>

 <CDDR>
        <CDDRID>374629483746</CDDRID>
        <start_dateTime>20050825 130320Z</start_dateTime>
        <stop_dateTime>20050825 140321Z</stop_dateTime>
        <files>
         <num_files>1</num_files>
         <file>
            <requestID>R374629483746</requestID>
            <transferID>12346987393748234523304857584723
            </transferID>
           <urID>43132603-11104-9b9dea63-deb2216a</urID>
            <origin>ops</origin>
            <domain>noaa</domain>
            <destination>ftp: //somedomain.com/path/folder
            </destination>
            <checksum>1458667249</checksum>
            <filename>RAVMO-CrIS-SDR-GEO_NPP_d2003125_t101153_e10121_b-1_c200582513353_devl_Tst.h5</filename>
            <size>128552</size>
            <status>success</status>
            <timestamp>20050825 130434Z</timestamp>
         <file>
       </files>
 </CDDR>
```

Example A-18.1, Consolidated Data Delivery Report Examples – No Files Delivered


```xml
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>

<CDDR>
        <CDDRID>374629483746</CDDRID>
        <start_dateTime>20050825 130320Z</start_dateTime>
        <stop_dateTime>20050825 140321Z</stop_dateTime>
        <files>
           <num_files>0</num_files>
        </files>
</CDDR>
```

Example A-19.0, HLM Report Stylesheet Example

```
<?xml version="1.0"?>
<!DOCTYPE xsl:stylesheet [ <!ENTITY nbsp " "> ]>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<xsl:template match="/">
<html>
<body>
<center>
  <!--******************** HEADER INFO ******************** -->
  <b>
  <font size="+2">
    HLM Report for <xsl:value-of select="HLM_Report/START_TIME"/><br/>
    Spacecraft - <xsl:value-of select="HLM_Report/SCID"/><br/>
    Antenna - <xsl:value-of select="HLM_Report/ANTENNA"/><br/>
  </font>
  </b>
  <br/>
  <br/>

  <!--******************* TRACKING BAND ********************--->
  <table border="2" cellpadding="5" width="30%">
    <tr>
      <th colspan="3"><b>Tracking Band</b></th>
    </tr>
    <tr>
      <th>Timestamp</th>
      <th>Device</th>
      <th>Value</th>
    </tr>
    <xsl:for-each select="HLM_Report/TAG[@name='Tracking Band']">
```

```
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
  </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!--**************** HLM RECEIVER HEALTH **************** -->
<table border="2" cellpadding="5" width="70%">
  <tr><b>HLM Receiver Health</b></tr>
</table>

<!-- Demodulator Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Demodulator Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Demodulator Status']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
  </tr>
  </xsl:for-each>
</table>
```

```
<br/>
<br/>

<!-- Test Modulator Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Test Modulator Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Test Modulator Status']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
  </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Data Processing Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Data Processing Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
```

```
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Data Processing Status']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
        <td><xsl:value-of select="VALUE"/></td>
  </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Cortex Miscellaneous Alarms -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Cortex Miscellaneous Alarms</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Cortex Miscellaneous Alarms']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>
```

```
<!--*************** HRD PROCESSOR HEALTH **************** -->
<table border="2" cellpadding="5" width="70%">
   <tr><b>HRD Processor Health</b></tr>
</table>

<!-- System Health - Power -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - Power</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health Powers']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- System Health - Temperature -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - Temperature</b></th>
  </tr>
```

```
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health Temperature']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- System Health - Fans -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - Fans</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health Fans']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
```

```
</table>
<br/>
<br/>

<!-- System Health - CPU -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - CPU</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health CPU']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- System Health - NIC 1 -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - NIC 1</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
```

```
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health System NIC 1']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
  </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- System Health - NIC 2 -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - NIC 2</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health System NIC 2']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
  </tr>
  </xsl:for-each>
</table>
<br/>
<br/>
```

```
<!-- System Health - SW Flash Disk (Disk 1) -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - SW Flash Disk (Disk 1)</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health System SW Flash Disk (Disk 1)']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- System Health - Hard Disk (Disk 2) -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - Hard Disk (Disk 2)</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health Hard Disk (Disk 2)']">
```

```
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- System Health - IRIG 0 -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>System Health - IRIG 0</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health IRIG 0']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- System Health - Serial 0 -->
<table border="2" cellpadding="5" width="50%">
```

```
  <tr>
    <th colspan="3"><b>System Health - Serial 0</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Sys Health Serial 0']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>



<!--****************** HRD VSA HEALTH ******************* -->
<table border="2" cellpadding="5" width="70%">
  <tr><b>HRD Vector Signal Analyzer Health</b></tr>
</table>

<!-- Calibration Needed -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Calibration Needed</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
```

```
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Calibration Needed']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Data Overload -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Data Overload</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Data Overload']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
```

```
<br/>



<!--******** DIGITAL TO SERIAL INTERFACE 1 HEALTH ******* -->
<table border="2" cellpadding="5" width="70%">
  <tr><b>Digital To Serial Interface 1 Health</b></tr>
</table>

<!-- 10 MHz Distribution Amp HLM Fault -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>10 MHz Distribution Amp HLM Fault</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='10 MHz Distribution Amp HLM Fault']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- HRD Block Downconverter Fault -->
<table border="2" cellpadding="5" width="50%">
  <tr>
```

```
    <th colspan="3"><b>HRD Block Downconverter Fault</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='HRD Block Downconverter Fault']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>



<!--******** DIGITAL TO SERIAL INTERFACE 2 HEALTH ******* -->
<table border="2" cellpadding="5" width="70%">
  <tr><b>Digital To Serial Interface 2 Health</b></tr>
</table>

<!-- Test Block Downconverter Fault -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Test Block Downconverter Fault</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
```

```
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Test Block Downconverter Fault']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>
<br/>

<!--********* HLM RECEIVER DEMODULATOR A DATA *********** -->
<table border="2" cellpadding="5" width="70%">
  <tr><b>HLM Receiver Demodulator A Data</b></tr>
</table>
<!-- Carrier PLL Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Carrier PLL Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Carrier PLL status']">
  <xsl:if test="DEVICE='HLM Receiver Cortex Demodulator Channel A'">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
```

```
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:if>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- IF Level -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>IF Level</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='IF level']">
  <xsl:if test="DEVICE='HLM Receiver Cortex Demodulator Channel A'">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:if>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Bit Sync Status -->
<table border="2" cellpadding="5" width="50%">
```

```
  <tr>
    <th colspan="3"><b>Bit Sync Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Bit Sync Status']">
  <xsl:if test="DEVICE='HLM Receiver Cortex Demodulator Channel A'">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:if>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Viterbi Decoder Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Viterbi Decoder Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Viterbi Decoder Status']">
  <xsl:if test="DEVICE='HLM Receiver Cortex Demodulator Channel A'">
```

```
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:if>
  </xsl:for-each>
</table>
<br/>
<br/>



<!--********* HLM RECEIVER DEMODULATOR B DATA *********** -->
<table border="2" cellpadding="5" width="70%">
  <tr><b>HLM Receiver Demodulator B Data</b></tr>
</table>
<!-- Carrier PLL Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Carrier PLL Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Carrier PLL status']">
  <xsl:if test="DEVICE='HLM Receiver Cortex Demodulator Channel B'">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
```

```
    </tr>
  </xsl:if>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- IF Level -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>IF Level</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='IF level']">
  <xsl:if test="DEVICE='HLM Receiver Cortex Demodulator Channel B'">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:if>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Bit Sync Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
```

```
    <th colspan="3"><b>Bit Sync Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Bit Sync Status']">
  <xsl:if test="DEVICE='HLM Receiver Cortex Demodulator Channel B'">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:if>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Viterbi Decoder Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Viterbi Decoder Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Viterbi Decoder Status']">
  <xsl:if test="DEVICE='HLM Receiver Cortex Demodulator Channel B'">
  <tr>
```

```
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:if>
  </xsl:for-each>
</table>
<br/>
<br/>



<!--**************** HRD PROCESSOR DATA ***************** -->
<table border="2" cellpadding="5" width="70%">
  <tr><b>HRD Processor Data</b></tr>
</table>

<!-- Rec NPP HRD 0 Status -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Rec NPP HRD 0 Status</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Rec NPP HRD 0 Status']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
```

```
  </xsl:for-each>
 </table>
 <br/>
 <br/>

 <!-- Demultiplexer Frames Corrected -->
 <table border="2" cellpadding="5" width="50%">
  <tr>
   <th colspan="3"><b>Demultiplexer Frames Corrected</b></th>
  </tr>
  <tr>
   <th>Timestamp</th>
   <th>Device</th>
   <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Demultiplexer Frames Corrected']">
  <tr>
   <td><xsl:value-of select="TIMESTAMP"/></td>
   <td><xsl:value-of select="DEVICE"/></td>
   <td><xsl:value-of select="VALUE"/></td>
   </tr>
  </xsl:for-each>
 </table>
 <br/>
 <br/>

 <!-- Demultiplexer Frame Symbol Errors -->
 <table border="2" cellpadding="5" width="50%">
  <tr>
   <th colspan="3"><b>Demultiplexer Frame Symbol Errors</b></th>
  </tr>
  <tr>
   <th>Timestamp</th>
```

```
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Demultiplexer Frame Symbol Errors']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Demultiplexer Frames Uncorrected -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Demultiplexer Frames Uncorrected</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Demultiplexer Frames Uncorrected']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
```

```
<br/>

<!-- Demultiplexer Frames Dropped -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Demultiplexer Frames Dropped</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Demultiplexer Frames Dropped']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>



<!--******************** HRD VSA DATA ****************** -->
<table border="2" cellpadding="5" width="70%">
    <tr><b>HRD Vector Signal Analyzer Data</b></tr>
</table>

<!-- Digital Demod Format -->
<table border="2" cellpadding="5" width="50%">
  <tr>
```

```
    <th colspan="3"><b>Digital Demod Format</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Digital Demod Format']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Data Rate LMP -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Data Rate LMP</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Data Rate LMP']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
```

```
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- EVM LMP -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>EVM LMP</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='EVM LMP']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Frequency Center -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Frequency Center</b></th>
  </tr>
  <tr>
```

```
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Frequency Center']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- IQ Offset LMP -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>IQ Offset LMP</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='IQ Offset LMP']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
```

```
<br/>
<br/>

<!-- Magnitude Error LMP -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Magnitude Error LMP</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Magnitude Error LMP']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Phase Error LMP -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Phase Error LMP</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
```

```
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Phase Error LMP']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Quadrature Error LMP -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Quadrature Error LMP</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Quadrature Error LMP']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>
```

```
<!-- Received Signal Strength LMP -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Received Signal Strength LMP</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Received Signal Strength LMP']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Resolution Bandwidth -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Resolution Bandwidth</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Resolution Bandwidth']">
  <tr>
```

```
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Signal To Normalized Noise Ratio LMP -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>Signal To Normalized Noise Ratio LMP</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Signal To Normalized Noise Ratio LMP']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- Power Bandwidth -->
<table border="2" cellpadding="5" width="50%">
  <tr>
```

```
    <th colspan="3"><b>Power Bandwidth</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='Power Bandwidth']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 52 - 53 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>52 - 53 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='52 - 53 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
```

```
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 53 - 54 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>53 - 54 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='53 - 54 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 54 - 55 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>54 - 55 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
```

```
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='54 - 55 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 55 - 56 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>55 - 56 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='55 - 56 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
```

```
<br/>
<br/>

<!-- 56 - 57 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>56 - 57 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='56 - 57 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 57 - 58 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>57 - 58 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
```

```
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='57 - 58 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 58 - 59 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>58 - 59 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='58 - 59 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>
```

```
<!-- 59 - 60 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>59 - 60 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='59 - 60 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 60 - 61 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>60 - 61 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='60 - 61 Spectral Power Last Measured Point']">
  <tr>
```

```
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 61 - 62 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>61 - 62 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='61 - 62 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 62 - 63 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
```

```
    <th colspan="3"><b>62 - 63 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='62 - 63 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 63 - 64 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>63 - 64 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='63 - 64 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
```

```
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 64 - 65 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>64 - 65 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='64 - 65 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 65 - 66 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>65 - 66 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
```

```
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='65 - 66 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 66 - 67 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>66 - 67 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='66 - 67 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
```

```
<br/>
<br/>

<!-- 67 - 68 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>67 - 68 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='67 - 68 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 68 - 69 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>68 - 69 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
```

```
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='68 - 69 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 69 - 70 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>69- 70 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='69 - 70 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>
```

```
<!-- 70 - 71 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>70 - 71 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='70 - 71 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 71 - 72 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>71 - 72 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='71 - 72 Spectral Power Last Measured Point']">
  <tr>
```

```
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 72 - 73 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>72 - 73 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='72 - 73 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 73 - 74 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
```

```
    <th colspan="3"><b>73 - 74 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='73 - 74 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 74 - 75 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>74 - 75 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='74 - 75 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
```

```
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 75 - 76 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>75 - 76 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='75 - 76 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 76 - 77 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>76 - 77 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
```

```
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='76 - 77 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 77 - 78 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>77 - 78 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='77 - 78 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
```

```
<br/>
<br/>

<!-- 78 - 79 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>78 - 79 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='78 - 79 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 79 - 80 Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>79 - 80 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
```

```
    </tr>
    <xsl:for-each select="HLM_Report/TAG[@name='79 - 80 Spectral Power Last Measured Point']">
    <tr>
      <td><xsl:value-of select="TIMESTAMP"/></td>
      <td><xsl:value-of select="DEVICE"/></td>
      <td><xsl:value-of select="VALUE"/></td>
      </tr>
    </xsl:for-each>
  </table>
  <br/>
  <br/>

  <!-- 80 - 81 Spectral Power Last Measured Point -->
  <table border="2" cellpadding="5" width="50%">
    <tr>
      <th colspan="3"><b>80 - 81 Spectral Power Last Measured Point</b></th>
    </tr>
    <tr>
      <th>Timestamp</th>
      <th>Device</th>
      <th>Value</th>
    </tr>
    <xsl:for-each select="HLM_Report/TAG[@name='80 - 81 Spectral Power Last Measured Point']">
    <tr>
      <td><xsl:value-of select="TIMESTAMP"/></td>
      <td><xsl:value-of select="DEVICE"/></td>
      <td><xsl:value-of select="VALUE"/></td>
      </tr>
    </xsl:for-each>
  </table>
  <br/>
  <br/>
```

```
<!-- 81 - 82  Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>81 - 82 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='81 - 82 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 82 - 83  Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>82 - 83 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='82 - 83 Spectral Power Last Measured Point']">
  <tr>
```

```
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 83 - 84  Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>83 - 84 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='83 - 84 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 84 - 85  Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
```

```
    <th colspan="3"><b>84 - 85 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='84 - 85 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 85 - 86  Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>85 - 86 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='85 - 86 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
```

```
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 86 - 87  Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>86 - 87 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='86 - 87 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>

<!-- 87 - 88  Spectral Power Last Measured Point -->
<table border="2" cellpadding="5" width="50%">
  <tr>
    <th colspan="3"><b>87 - 88 Spectral Power Last Measured Point</b></th>
  </tr>
  <tr>
```

```
    <th>Timestamp</th>
    <th>Device</th>
    <th>Value</th>
  </tr>
  <xsl:for-each select="HLM_Report/TAG[@name='87 - 88 Spectral Power Last Measured Point']">
  <tr>
    <td><xsl:value-of select="TIMESTAMP"/></td>
    <td><xsl:value-of select="DEVICE"/></td>
    <td><xsl:value-of select="VALUE"/></td>
    </tr>
  </xsl:for-each>
</table>
<br/>
<br/>



<!--**************** NPP VCID STATISTICS **************** -->
<table border="2" cellpadding="5" width="70%">
  <tr><b>NPP VCID Statistics</b></tr>
</table>

<xsl:for-each select="HLM_Report/VCIDTAG[@name='NPP']">
<table>
  <tr>
   <xsl:for-each select="VCID">
     <table border="2" cellpadding="5" width="50%">
       <tr>
         <th>VCID</th>
         <th>VCID COUNT</th>
       </tr>
       <td><center><xsl:value-of select="@id"/></center></td>
       <td><center><xsl:value-of select="@count"/></center></td>
```

```
        <xsl:for-each select="APID">
          <table border="2" cellpadding="5" width="30%">
            <tr>
              <th>APID</th>
              <th>APID COUNT</th>
            </tr>
            <tr>
              <td><center><xsl:value-of select="@id"/></center></td>
              <td><center><xsl:value-of select="."/></center></td>
            </tr>
          </table>
        </xsl:for-each>
      </table>
      <br/>
      <br/>
    </xsl:for-each>
   </tr>
  </table>
  </xsl:for-each>
  <br/>
  <br/>

   <!--******************** END TIME ********************** -->
  <b>End Of Pass : <xsl:value-of select="HLM_Report/END_TIME"/></b>

</center>
</body>
</html>
</xsl:template>
</xsl:stylesheet>
```

Example A-20.0, Mission Schedule Stylesheet Example

```
<?xml version="1.0"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
                xmlns:date="http://exslt.org/dates-and-times"
                extension-element-prefixes="date">

<xsl:param name="date:date-time" select="'2000-01-01T00:00:00Z'" />

<date:month-lengths>
  <date:month>31</date:month>
  <date:month>28</date:month>
  <date:month>31</date:month>
  <date:month>30</date:month>
  <date:month>31</date:month>
  <date:month>30</date:month>
  <date:month>31</date:month>
  <date:month>31</date:month>
  <date:month>30</date:month>
  <date:month>31</date:month>
  <date:month>30</date:month>
  <date:month>31</date:month>
</date:month-lengths>

<date:days>
  <date:day abbr="Sun">Sunday</date:day>
  <date:day abbr="Mon">Monday</date:day>
  <date:day abbr="Tue">Tuesday</date:day>
  <date:day abbr="Wed">Wednesday</date:day>
  <date:day abbr="Thu">Thursday</date:day>
  <date:day abbr="Fri">Friday</date:day>
  <date:day abbr="Sat">Saturday</date:day>
</date:days>
```

```
<date:months>
  <date:month abbr="Jan">January</date:month>
  <date:month abbr="Feb">February</date:month>
  <date:month abbr="Mar">March</date:month>
  <date:month abbr="Apr">April</date:month>
  <date:month abbr="May">May</date:month>
  <date:month abbr="Jun">June</date:month>
  <date:month abbr="Jul">July</date:month>
  <date:month abbr="Aug">August</date:month>
  <date:month abbr="Sep">September</date:month>
  <date:month abbr="Oct">October</date:month>
  <date:month abbr="Nov">November</date:month>
  <date:month abbr="Dec">December</date:month>
</date:months>


<!--  ************** Day Abbreviation Template ****************************** -->

<xsl:template name="date:day-abbreviation">
          <xsl:param name="date-time">
     <xsl:choose>
       <xsl:when test="function-available('date:date-time')">
         <xsl:value-of select="date:date-time()" />
       </xsl:when>
       <xsl:otherwise>
         <xsl:value-of select="$date:date-time" />
       </xsl:otherwise>
     </xsl:choose>
  </xsl:param>
  <xsl:variable name="neg" select="starts-with($date-time, '-')" />
  <xsl:variable name="dt-no-neg">
     <xsl:choose>
```

```
      <xsl:when test="$neg or starts-with($date-time, '+')">
        <xsl:value-of select="substring($date-time, 2)" />
      </xsl:when>
      <xsl:otherwise>
        <xsl:value-of select="$date-time" />
      </xsl:otherwise>
    </xsl:choose>
  </xsl:variable>
  <xsl:variable name="dt-no-neg-length" select="string-length($dt-no-neg)" />
  <xsl:variable name="timezone">
    <xsl:choose>
      <xsl:when test="substring($dt-no-neg, $dt-no-neg-length) = 'Z'">Z</xsl:when>
      <xsl:otherwise>
        <xsl:variable name="tz" select="substring($dt-no-neg, $dt-no-neg-length - 5)" />
        <xsl:if test="(substring($tz, 1, 1) = '-' or
                      substring($tz, 1, 1) = '+') and
                     substring($tz, 4, 1) = ':'">
          <xsl:value-of select="$tz" />
        </xsl:if>
      </xsl:otherwise>
    </xsl:choose>
  </xsl:variable>
  <xsl:variable name="day-of-week">
    <xsl:if test="not(string($timezone)) or
                 $timezone = 'Z' or
                 (substring($timezone, 2, 2) &lt;= 23 and
                  substring($timezone, 5, 2) &lt;= 59)">
      <xsl:variable name="dt" select="substring($dt-no-neg, 1, $dt-no-neg-length - string-length($timezone))" />
      <xsl:variable name="dt-length" select="string-length($dt)" />
      <xsl:variable name="year" select="substring($dt, 1, 4)" />
      <xsl:variable name="leap" select="(not($year mod 4) and $year mod 100) or not($year mod 400)" />
      <xsl:variable name="month" select="substring($dt, 6, 2)" />
      <xsl:variable name="day" select="substring($dt, 9, 2)" />
```

```
      <xsl:if test="number($year) and
                substring($dt, 5, 1) = '-' and
                $month &lt;= 12 and
                substring($dt, 8, 1) = '-' and
                $day &lt;= 31 and
                ($dt-length = 10 or
                 (substring($dt, 11, 1) = 'T' and
                  substring($dt, 12, 2) &lt;= 23 and
                  substring($dt, 14, 1) = ':' and
                  substring($dt, 15, 2) &lt;= 59 and
                  substring($dt, 17, 1) = ':' and
                  substring($dt, 18) &lt;= 60))">
        <xsl:variable name="month-days" select="sum(document('')/*/date:month-lengths/date:month[position() &lt; $month])" />
        <xsl:variable name="days" select="$month-days + $day + boolean($leap and $month > 2)" />
        <xsl:variable name="y-1" select="$year - 1" />
        <xsl:value-of select="(($y-1 + floor($y-1 div 4) -
                        floor($y-1 div 100) + floor($y-1 div 400) +
                        $days)
                       mod 7) + 1" />
      </xsl:if>
    </xsl:if>
  </xsl:variable>
  <xsl:value-of select="document('')/*/date:days/date:day[number($day-of-week)]/@abbr" />
</xsl:template>


<!--  **************** Month Abbreviation Template *************************** -->

<xsl:template name="date:month-abbreviation">
        <xsl:param name="date-time">
    <xsl:choose>
      <xsl:when test="function-available('date:date-time')">
```

```
        <xsl:value-of select="date:date-time()" />
      </xsl:when>
      <xsl:otherwise>
        <xsl:value-of select="$date:date-time" />
      </xsl:otherwise>
    </xsl:choose>
  </xsl:param>
  <xsl:variable name="neg" select="starts-with($date-time, '-') and
                                   not(starts-with($date-time, '--'))" />
  <xsl:variable name="dt-no-neg">
    <xsl:choose>
      <xsl:when test="$neg or starts-with($date-time, '+')">
        <xsl:value-of select="substring($date-time, 2)" />
      </xsl:when>
      <xsl:otherwise>
        <xsl:value-of select="$date-time" />
      </xsl:otherwise>
    </xsl:choose>
  </xsl:variable>
  <xsl:variable name="dt-no-neg-length" select="string-length($dt-no-neg)" />
  <xsl:variable name="timezone">
    <xsl:choose>
      <xsl:when test="substring($dt-no-neg, $dt-no-neg-length) = 'Z'">Z</xsl:when>
      <xsl:otherwise>
        <xsl:variable name="tz" select="substring($dt-no-neg, $dt-no-neg-length - 5)" />
        <xsl:if test="(substring($tz, 1, 1) = '-' or
                       substring($tz, 1, 1) = '+') and
                      substring($tz, 4, 1) = ':'">
          <xsl:value-of select="$tz" />
        </xsl:if>
      </xsl:otherwise>
    </xsl:choose>
  </xsl:variable>
```

```
<xsl:variable name="month">
  <xsl:if test="not(string($timezone)) or
            $timezone = 'Z' or
            (substring($timezone, 2, 2) &lt;= 23 and
             substring($timezone, 5, 2) &lt;= 59)">
    <xsl:variable name="dt" select="substring($dt-no-neg, 1, $dt-no-neg-length - string-length($timezone))" />
    <xsl:variable name="dt-length" select="string-length($dt)" />
    <xsl:choose>
      <xsl:when test="substring($dt, 1, 2) = '--' and
                  substring($dt, 3, 2) &lt;= 12 and
                  substring($dt, 5, 1) = '-' and
                  (substring($dt, 6) = '-' or
                   ($dt-length = 7 and
                    substring($dt, 6) &lt;= 31))">
        <xsl:value-of select="substring($dt, 3, 2)" />
      </xsl:when>
      <xsl:when test="number(substring($dt, 1, 4)) and
                  substring($dt, 5, 1) = '-' and
                  substring($dt, 6, 2) &lt;= 12 and
                  ($dt-length = 7 or
                   (substring($dt, 8, 1) = '-' and
                    substring($dt, 9, 2) &lt;= 31 and
                    ($dt-length = 10 or
                     (substring($dt, 11, 1) = 'T' and
                      substring($dt, 12, 2) &lt;= 23 and
                      substring($dt, 14, 1) = ':' and
                      substring($dt, 15, 2) &lt;= 59 and
                      substring($dt, 17, 1) = ':' and
                      substring($dt, 18) &lt;= 60))))">
        <xsl:value-of select="substring($dt, 6, 2)" />
      </xsl:when>
    </xsl:choose>
  </xsl:if>
```

```
  </xsl:variable>
  <xsl:value-of select="document(')/*/date:months/date:month[number($month)]/@abbr" />
</xsl:template>


<!--  **************** Format Date Template ****************************** -->

<xsl:template name="formatDate">
   <xsl:param name="date"/>
   <xsl:variable name="dateVar" select="concat(substring($date,7,4), '-',
                                   substring($date,4,2), '-',
                                   substring($date,1,2))"/>
   <xsl:variable name="day-of-week">
      <xsl:call-template name="date:day-abbreviation">
         <xsl:with-param name="date-time" select="$dateVar"/>
      </xsl:call-template>
   </xsl:variable>
   <xsl:variable name="month-of-year">
      <xsl:call-template name="date:month-abbreviation">
         <xsl:with-param name="date-time" select="$dateVar"/>
      </xsl:call-template>
   </xsl:variable>
   <xsl:variable name="formattedDate" select="concat($day-of-week, ' ',
                                      $month-of-year, ' ',
                                      substring($date,1,2), ' ',
                                      substring($date,12,8), ' ',
                                      substring($date,7,4), ' ')"/>
   <xsl:value-of select="$formattedDate"/>
</xsl:template>


<!--  **************** Begin XSL Transformation ********************************** -->
```

```
<xsl:key name="events-and-tasks" match="event|task" use="/missionSchedule/name"/>

<xsl:template match="/">
  <html>
    <head>
<xsl:for-each select="missionSchedule">
       <title>Summary of schedule <xsl:value-of select="name"/> for
         <xsl:value-of select="startTime"/> to
         <xsl:value-of select="stopTime"/>
       </title>
</xsl:for-each>

<!--<xsl:for-each select="missionSchedule">
       <title>Summary of schedule <xsl:value-of select="name"/> for
          <xsl:call-template name="formatDate">
             <xsl:with-param name="date" select="startTime"/>
          </xsl:call-template> to
          <xsl:call-template name="formatDate">
             <xsl:with-param name="date" select="stopTime"/>
          </xsl:call-template>
       </title>
</xsl:for-each>-->

    </head>
    <body>
    <center>

<!--<xsl:for-each select="missionSchedule">
    <h2>Summary of schedule <xsl:value-of select="name"/> for
          <xsl:call-template name="formatDate">
             <xsl:with-param name="date" select="startTime"/>
          </xsl:call-template> to
          <xsl:call-template name="formatDate">
```

```
            <xsl:with-param name="date" select="stopTime"/>
          </xsl:call-template>
    </h2><br/>
</xsl:for-each>-->

<xsl:for-each select="missionSchedule">
    <h2>Summary of schedule <xsl:value-of select="name"/> for
      <xsl:value-of select="startTime"/> to
      <xsl:value-of select="stopTime"/>
    </h2><br/>
</xsl:for-each>

      <table border="2" cellpadding="5">
      <tr>
        <th>Id<br/>(Activities in Caps)</th>
        <th>Start Time</th>
        <th>Stop Time</th>
        <th>Duration (min)</th>
        <th>Type</th>
        <th>SC/GS</th>
        <th>Resource</th>
      </tr>

<xsl:for-each select="key('events-and-tasks', /missionSchedule/name)">
   <xsl:sort select="substring(startTime,7,4)"  data-type="number"/> <!-- year -->
   <xsl:sort select="substring(startTime,4,2)"  data-type="number"/> <!-- month  -->
   <xsl:sort select="substring(startTime,1,2)"  data-type="number"/> <!-- day  -->
   <xsl:sort select="substring(startTime,12,2)" data-type="number"/> <!-- hours  -->
   <xsl:sort select="substring(startTime,15,2)" data-type="number"/> <!-- minutes -->
   <xsl:sort select="substring(startTime,18,2)" data-type="number"/> <!-- seconds -->
      <tr>
        <xsl:choose>
          <xsl:when test="count(./taskId) = 1">
```

```
      <td><xsl:value-of select="taskId"/></td>
    </xsl:when>
    <xsl:when test="count(./eventId) = 1">
      <td><xsl:value-of select="eventId"/></td>
    </xsl:when>
  </xsl:choose>

  <!--<td>
     <xsl:call-template name="formatDate">
        <xsl:with-param name="date" select="startTime"/>
     </xsl:call-template>
  </td>
  <td>
     <xsl:call-template name="formatDate">
        <xsl:with-param name="date" select="stopTime"/>
     </xsl:call-template>
  </td>-->
  <td>
     <xsl:value-of select="startTime"/>
  </td>
  <td>
     <xsl:value-of select="stopTime"/>
  </td>
  <td><xsl:value-of select="duration"/></td>

  <xsl:choose>
    <xsl:when test="count(./taskType) = 1">
      <td><xsl:value-of select="taskType"/></td>
    </xsl:when>
    <xsl:when test="count(./eventType) = 1">
      <td><xsl:value-of select="eventType"/></td>
    </xsl:when>
  </xsl:choose>
```

```
        <td><xsl:for-each select="sc_gs"><xsl:value-of select="."/><br/></xsl:for-each></td>
        <td><xsl:for-each select="resource"><xsl:value-of select="."/><br/></xsl:for-each></td>
      </tr>
</xsl:for-each>
      </table><br/>

    </center>
    </body>
  </html>
</xsl:template>

</xsl:stylesheet>
```

Example A-20.1, Mission Notices Examples – NPP (State 1)

TITLE: Spacecraft Maneuver Cancelled

ID: 033234

DATE/TIME: 2010-04-02 11:25:43

DESCRIPTION:

The spacecraft maneuver scheduled for 20100405 has been cancelled.

Example A-20.2, Mission Notices Examples – JPSS (Blocks 2 and 3)

<?xml version=”1.0” encoding=”UTF-8”?>
<missionNotice>
<identifier>033234</identifier>
<sent>2010-04-02 11:25:43</sent>
<msgType>Cancel</msgType>
<scope>Public</scope>
<info>
<title>Spacecraft Maneuver Cancelled</title>
<event>Maneuver</event>
<urgency>Future</urgency>
<onset>2010-04-05 10:00:00</onset>
<expires>2010-04-05 10:15:00</expires>
<description>The spacecraft maneuver scheduled for 20100405 has been cancelled.</description>
</info>
<affect>

<spacecraft>
<name>NPP</name>
</spacecraft>
</affect>
</missionNotice>

APPENDIX B: DATA MNEMONIC TO INTERFACE MAPPING

See 474-00001-01, JPSS CDFCB-X Vol. I for the Data Mnemonic to Interface Mapping details.

APPENDIX C: DQTT QUALITY FLAG MAPPING

The following table maps the quality flags by sensor and product that are reportable to the associated data product quality flag Test ID used in the processing environment.

Table C-1, DQTT Quality Flag Mapping

Algorithm	Product	Test ID	Quality Flag
ATMS SDR	ATMS-SDR	1300	Summary ATMS SDR Quality
		1301	Health and Status
		1302	Gain Error
ATMS SDR	ATMS-TDR	8000	Summary ATMS SDR Quality
		8001	Health and Status
		8002	Gain Error
CrIS SDR	CrIS-SDR	1400	CrIS RDR Yield
		1401	CrIS SDR Yield
		1402	Invalid Radiometric Calibration Yield
ATMS Remap SDR	ATMS-Remap-SDR	7000	Synch Error (Remap Only)
CrIMSS	CrIMSS-EDR	5700	CrIMSS Retrieval Quality
		5701	Input Data Quality (CrIS SDR)
		5702	Input Data Quality (ATMS SDR)
	CrIS-IR-OZ-Prof -IP	6000	Ozone Profile Product Yield
		6001	Input Data Quality (CrIS)
		6002	Input Data Quality (ATMS)

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Algorithm	Product	Test ID	Quality Flag
OMPS TC SDR	OMPS-TC-SDR	1500	None
OMPS TC EDR	OMPS-TC-EDR	1600	Total Column Product Quality
		1601	Exclusion Summary
		1602	Input Data Summary
OMPS NP SDR	OMPS-NP-SDR	1700	None
OMPS NP IP	OMPS-NP-IP	1800	Nadir Profile Product Quality
		1801	Input Data Summary
VIIRS SDR	VIIRS-I1-SDR	1900	Summary VIIRS SDR Quality
		1901	Scan Quality Exclusion
	VIIRS-I2-SDR	2000	Summary VIIRS SDR Quality
		2001	Scan Quality Exclusion
	VIIRS-I3-SDR	2100	Summary VIIRS SDR Quality
		2101	Scan Quality Exclusion
	VIIRS-I4-SDR	2200	Summary VIIRS SDR Quality
		2201	Scan Quality Exclusion
	VIIRS-I5-SDR	2300	Summary VIIRS SDR Quality
		2301	Scan Quality Exclusion
	VIIRS-DNB-SDR	2400	Summary VIIRS SDR Quality
		2401	Scan Quality Exclusion
	VIIRS-M1-SDR	2500	Summary VIIRS SDR Quality
		2501	Scan Quality Exclusion
	VIIRS-M2-SDR	2600	Summary VIIRS SDR Quality
		2601	Scan Quality Exclusion
	VIIRS-M3-SDR	2700	Summary VIIRS SDR Quality
		2701	Scan Quality Exclusion
	VIIRS-M4-SDR	2800	Summary VIIRS SDR Quality
		2801	Scan Quality Exclusion

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Algorithm	Product	Test ID	Quality Flag
	VIIRS-M5-SDR	2900	Summary VIIRS SDR Quality
		2901	Scan Quality Exclusion
	VIIRS-M6-SDR	3000	Summary VIIRS SDR Quality
		3001	Scan Quality Exclusion
	VIIRS-M7-SDR	3100	Summary VIIRS SDR Quality
		3101	Scan Quality Exclusion
	VIIRS-M8-SDR	3200	Summary VIIRS SDR Quality
		3201	Scan Quality Exclusion
	VIIRS-M9-SDR	3300	Summary VIIRS SDR Quality
		3301	Scan Quality Exclusion
	VIIRS-M10-SDR	3400	Summary VIIRS SDR Quality
		3401	Scan Quality Exclusion
	VIIRS-M11-SDR	3500	Summary VIIRS SDR Quality
		3501	Scan Quality Exclusion
	VIIRS-M12-SDR	3600	Summary VIIRS SDR Quality
		3601	Scan Quality Exclusion
	VIIRS-M13-SDR	3700	Summary VIIRS SDR Quality
		3701	Scan Quality Exclusion
	VIIRS-M14-SDR	3800	Summary VIIRS SDR Quality
		3801	Scan Quality Exclusion
	VIIRS-M15-SDR	3900	Summary VIIRS SDR Quality
		3901	Scan Quality Exclusion
	VIIRS-M16-SDR	4000	Summary VIIRS SDR Quality
		4001	Scan Quality Exclusion
VIIRS I-Band Imagery	VIIRS-I1-EDR	4100	Summary Imagery Quality
		4101	Summary Range check
		4102	Summary Saturated Pixel

Algorithm	Product	Test ID	Quality Flag
	VIIRS-I2-EDR	4200	Summary Imagery Quality
		4201	Summary Range check
		4202	Summary Saturated Pixel
	VIIRS-I3-EDR	4300	Summary Imagery Quality
		4301	Summary Range check
		4302	Summary Saturated Pixel
	VIIRS-I4-EDR	4400	Summary Imagery Quality
		4401	Summary Range check
		4402	Summary Saturated Pixel
	VIIRS-I5-EDR	4500	Summary Imagery Quality
		4501	Summary Range check
		4502	Summary Saturated Pixel
VIIRS NCC Imagery	VIIRS-NCC-EDR	4600	Summary Imagery Quality
		4601	Summary Range check
		4602	Summary Saturated Pixel
Sea Surface Temperature	VIIRS-SST-EDR	200	Summary Skin SST Quality
		201	Summary Bulk SST Quality
		202	Summary Degraded Skin SST Quality
		203	Summary Degraded Bulk SST Quality
Aerosol Optical Thickness	VIIRS-AOT-EDR	1000	AOT Summary Quality
		1002	APSP Summary Quality
		1001	AOT Exclusion Summary
		1003	APSP Exclusion Summary
Aerosol Particle Suspended Matter	VIIRS-SusMat-EDR	1200	Summary Suspended Matter Product Quality
		1201	Detection Exclusion Summary
		1202	Typing Product Quality
		1203	Typing Exclusion Summary

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Algorithm	Product	Test ID	Quality Flag
Cloud Products	VIIRS-CBH-EDR	4700	Granule level Quality Flag
		4701	Exclusion/Degradation Summary
	VIIRS-CCL-EDR	4800	Granule level Quality Flag
		4801	Exclusion/Degradation Summary
	VIIRS-CEPS-EDR	4900	Granule level Quality Flag
		4901	Exclusion/Degradation Summary
	VIIRS-COT-EDR	5000	Granule level Quality Flag
		5001	Exclusion/Degradation Summary
	VIIRS-CTH-EDR	5100	Granule level Quality Flag
		5101	Exclusion/Degradation Summary
	VIIRS-CTP-EDR	5200	Granule level Quality Flag
		5201	Exclusion/Degradation Summary
	VIIRS-CTT-EDR	5300	Granule level Quality Flag
		5301	Exclusion/Degradation Summary
Surface Albedo	Surface Albedo	100	Summary Albedo Quality
		101	Exclusion Summary
		102	Summary Range Check
Land Surface Temp	VIIRS-LST-EDR	5400	Summary Land Surface Temperature Quality
		5401	Exclusion Summary
		5402	Summary Range Check
Vegetation Index	VIIRS-VI-EDR	600	Summary EVI Quality
		601	Summary NDVI Quality
		602	EVI Exclusion Summary
		603	NDVI Exclusion Summary
Snow	VIIRS-SCD-BINARY-SNOW-FRAC-EDR	900	Snow Cover/Depth - Fraction Quality
		901	Degradation Summary
		902	Exclusion Summary

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Algorithm	Product	Test ID	Quality Flag
	VIIRS-SCD-BINARY-SNOW-MAP-EDR	903	Snow Cover - Binary Map Quality
		904	Exclusion Summary
Surface Type	VIIRS-ST-EDR	400	Surface Type Quality
		401	Exclusion Summary
VFM	VIIRS-AF-EDR (Active Fires ARP)	500	Summary Fire Product Quality
Ice Surface Temp	VIIRS-IST-EDR	5500	Summary IST Quality
		5501	Exclusion Summary
		5502	Summary Range Check
Net Heat Flux	VIIRS-NHF-EDR	5600	Total Net Heat Flux Product Quality
		5601	Exclusion Summary
Ocean Color/Chlorophyll	VIIRS-OCC-EDR	700	Overall Ocean Color Quality for M1
		701	Overall Ocean Color Quality for M2
		702	Overall Ocean Color Quality for M3
		703	Overall Ocean Color Quality for M4
		704	Overall Ocean Color Quality for M5
		705	Overall Chlorophyll a Concentration Quality
		706	Overall IOP-a Quality at M1
		707	Overall IOP-a Quality at M2
		708	Overall IOP-a Quality at M3
		709	Overall IOP-a Quality at M4
		710	Overall IOP-a Quality at M5
		711	Overall IOP-s Quality at M1
		712	Overall IOP-s Quality at M2
		713	Overall IOP-s Quality at M3
		714	Overall IOP-s Quality at M4
		715	Overall IOP-s Quality at M5

Algorithm	Product	Test ID	Quality Flag
		716	Exclusion Summary
		717	Summary Ocean Color Range Check
		718	Summary Chlorophyll Concentration Range Check
		719	Summary IOP-a Range Check
		720	Summary IOP-s Range Check
Sea Ice Age	VIIRS-SIC-EDR	800	Summary Ice Age Quality
		801	Exclusion Summary