Operations Agreement (OA)

Between the EROS Data Center (EDC)

Distributed Active Archive Center (DAAC)

and the Advanced Spaceborne Thermal Emission and

Reflection Radiometer (ASTER) Ground Data System (GDS)

BASIC

April 20~~February 13~~, 1998

Approved by:

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Lyndon Olsen Date
EDC DAAC Manager

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ASTER GDS Project Manager

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1.0 Introduction

As part of NASAÕs Earth Observing System (EOS) Data and Information System (EOSDIS), an interface is being established to pass scientific data between the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Ground Data System (GDS) and the Earth Resources Observing System (EROS) Data Center (EDC) Distributed Active Archive Center (DAAC). The ASTER data will be processed to Levels 1A and 1B in Japan for archival and distribution to users. The processed Level 1A and 1B data will be shipped to the EDC DAAC for archival and distribution to their Earth science researchers. Catalog Interoperability and Data Acquisition Requests (DAR) operations will be jointly maintained to ensure user activities via the DAR Gateway and ASTER Gateway at the EDC DAAC. Numerous other supporting activities will be required to ensure smooth operations between the two facilities as outlined in this document.

1.1 Purpose

The purpose of this document is to agree upon and formalize the operational interface, roles and responsibilities, addresses, parameters, and Points of Contact (POC) between the EDC DAAC and the ASTER GDS. The technical interface is specified in the Interface Control Document (ICD) between the EOSDIS Core System (ECS) and the ASTER GDS. The ICD contains information on what comprises the interface and when the interface will be invoked, whereas, this document contains information on who performs the activities to make the interface function and where and how they do it.

1.2 Scope

The scope of this agreement covers three types of operational information: information required by both the EDC DAAC and the ASTER GDS, information required by the EDC DAAC about the ASTER GDS, and information required by the ASTER GDS about the EDC DAAC. This agreement is written for the ECS-supported operations that will be available after the launch of the EOS AM-1 spacecraft.

The information in this document does not duplicate information contained in either the interface requirements document (IRD), the ICD, nor operator procedures manuals at both sides of the interface.

1.3 Configuration Control

This agreement is official upon signing by both parties. Any change to this document shall be made in the form of a new revision to the document, signed by both signatories. Upon signing by both parties of the new revision, that agreement is official and supersedes this version. EDC will coordinate future changes and perform the administrative functions of document version control.

2.0 Related Documentation

2.1 Parent Documents

The following documents are the parents from which this document's scope and content are derived:

None	Implementing Arrangement Between the National Aeronautics and Space Administration of the United States of America and the Ministry of International Trade and Industry of Japan Concerning Cooperation on the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Program, November 7th, 1996.
423-41-18	Goddard Space Flight Center, Interface Requirements Document Between Earth Observing System Data and Information System (EOSDIS) and MITI ASTER GDS Project
505-41-34	Interface Control Document Between EOSDIS Core System (ECS) and ASTER Ground Data System, 7/97
505-10-11	Project Implementation Plan, Volume II - Ground Data System; Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) and ESDIS and EOS-AM Projects, Revision A, 09/97
540037	Interface Control Document between the Earth Observing System (EOS) Data and Information System (EOSDIS) Backbone Network (EBnet) and Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Ground Data System (GDS), Sep. 1997

2.2 Applicable Documents

The following documents are referenced herein or are directly applicable to this document. In the event of conflict between any of these documents and this document, this document shall take precedence.

611-DR-002-001	ECS Mission Operation Procedures, 12/97
None	EDC DAAC Operations Procedures (TBS)
None	ASTER GDS Operations Procedures (TBS)

None	Science Software Integration and Test (SSI&T) Procedures Document Between the GSFC ESDIS Project and the ASTER GDS for the ASTER Level 1 Software, March 25, 1997
None	Operations Agreement between the NASA Communications Division (NASCOM) and the Earth Remote Sensing Data Analysis Center for Management and Operation of the IP Network, September 1, 1997

3.0 Overview

3.1 EDC DAAC

The EDC DAAC provides data and related services for global change research and education. It is a source of information about land processes, vegetation coverage, and land surface change, to aid in the study of the natural and human processes that influence the climate of the Earth. The EDC DAAC will be staffed by ECS operations personnel on a 24 hours per day/seven days per week basis.

3.2 ASTER GDS

The ASTER GDS provides ground support for mission operations and science data processing for the ASTER instrument onboard the EOS AM-1 spacecraft. It is the primary interface between the EOSDIS and the Japanese MITI ASTER team. The ASTER GDS will be staffed on a 24 hours per day/seven days per week basis (To Be Determined - TBD).

4.0 Data Exchange

4.1 E-mail Details and POCs

4.1.1 EDC DAAC

The following information is for use by the ASTER GDS in accessing the EDC DAAC.

What	Details	POC Title/Name	Used By	Used For

Address for media ingest	EROS Data Center ~~ECS Operations, Room 1502~~ ~~EDC~~ Distributed Active Archive Center ECS Operations, Room 1502~~USGS/EROS Data Center~~ Mundt Federal Building Sioux Falls, SD 57198 USA	EDC~~ECS~~ DAAC Operations	ASTER GDS CMS (Customer Management System)~~GDS Operations Supervisor (TBD)~~	Mailing D3 tapes to EDC
E-mail addresses:	ecs.aster.gds@e0ins0.edcb.ecs.nasa.gov (EBnet Email)	EDC~~ECS~~ Production Monitor	ASTER GDS SDPS Operations Supervisor ~~(TBD)~~	Sending DSN to EDC
Telephone Numbers:	1 (605) 594-2500	EDC~~ECS~~ DAAC Operations	ASTER GDS SDPS Operations Supervisor ~~(TBD)~~	Trouble resolution
Fax Numbers:	1 (605) 594-6567	EDC~~ECS~~ Production Monitor	ASTER GDS SDPS Operations Supervisor ~~(TBD)~~	Miscellaneous transmittal of information
Problem Resolution Contact Telephone:	1 (605) 594-2565	EDC~~ECS~~ DAAC Operations Supervisor/Robert Van Den Oever	ASTER GDS SDPS Operations Supervisor ~~(TBD)~~	Problem escalation
Problem Resolution Contact Email	vdo@edcmail.cr.usgs.gov (Internet Email)	EDC~~ECS~~ DAAC Operations Supervisor/Robert Van Den Oever	ASTER GDS SDPS Operations Supervisor ~~(TBD)~~	Problem escalation

US Customs Service standard shipping statement	Digital satellite scientific data on magnetic tape enclosed for Federal Government use and is of no commercial value. According to General Headnote 13(c) this data is not subject to the Tariff Schedules of the United States (TSUS).	N/A	ASTER GDS CMS ~~GDS Operations Supervisor (TBD)~~	Placed on outside of D3 tape shipment
Shipment Method*	FedEx, Priority Mail TBD	N/A		

*Each sender agrees to pay shipping and handling of D-3 tapes.

4.1.2 ASTER GDS

The following information is for use by the EDC DAAC in accessing the ASTER GDS. Note: Telephone is not the preferred method for communication with the GDS, Email is preferred.

What	Details	POC Title/Name	Used By	Used For
Mailing Addresses:	ASTER GDS SDPS Operations ERSDAC, Forefront Tower 14F 3-12-1, Kachidoki, Chuo-ku, Tokyo 104-0054 Japan~~TBS~~	ASTER GDS SDPS ~~DADS~~ Operations Supervisor~~TBR~~	EDC	Shipping D3 tapes to GDS
EBnet Email Addresses:	gds_sdps_operator@aster.ersdac.or.jp	ASTER GDS SDPS ~~DADS~~ Operations Supervisor ~~TBR~~	EDC Production Monitor	Sending PDRD, PAN or other electronic notifications
Fax Numbers:	81-3-3533-9383~~TBS~~	ASTER GDS SDPS Operations Supervisor~~TBS~~ /Ryo Takamura	EDC Production Monitor	Miscellaneous information transmittal

Problem Resolution Contact Telephone:	81-3-3533-9380~~TBS~~	ASTER GDS SDPS Operations Supervisor~~TBS~~	EDC Operations Supervisor	Emergency Problem Notification and R~~r~~esolution calls
Problem Resolution Contact Email:	Takamura@ersdac.or.jp (internet Email)~~TBS~~	ASTER GDS SDPS Operations Supervisor~~TBS~~	EDC Operations Supervisor	Problem Notification and R~~r~~esolution Emails
Japanese Customs Standard Shipping information	Note: Japanese characters not available on all MSWord Platforms, so not included here - separate files for Japanese Customs label in various formats has been transferred to EDC~~TBS~~	N/A~~TBS~~	EDC Operations Supervisor	Placed on the outside of box shipping D3 tapes to GDS
Shipment Method*	e.g. FedEx, Priority Mail TBD	N/A		

*Each sender agrees to pay shipping and handling of D-3 tapes.

4.2 Operator Tunable Parameters

Operator Tunable Parameters are those values supplied to the automated systems at both ends of the interface which enable mutual communications to be maintained. They are entered at set-up by operations personnel and changed infrequently during the operations phase. Operator tunable parameters are to be determined by each side of the interface, supplied to the other side via the following tables, and entered to the appropriate end equipment of the interface by the operations personnel at that end. ~~(TBD)~~

Parameters controlled by GDS

Parameter	**Value**	**Used For**
DAR Server Email Account ID	im-sys@ims-sys.aster.ersdac.or.jp	Remaining DAR Budget Request
~~Packet Filtering IDs~~	~~TBD~~	
~~Port Filtering IDs~~	~~TBD~~	

SMTP Email Event Notification Account ID	gs-smc@gds.aster.ersdac.or.jp	System Management and Maintenance Notification~~Downtime notices, system upgrade events~~

Parameters controlled by EDC

Parameter	**Value**	**Used For**
~~Packet Filtering IDs~~		
~~Port Filtering IDs~~		
SMTP Email Event Notification Account ID and IP address	astertroubleticket@e0ins01.edcb.ecs.nasa.gov (IP=198.118.202.158)	System Management and Maintenance Notification

4.3 Unique-Situation Data Flow Agreements

Unique-situation data flows are those which nominally require manual intervention of an operator at either or both sides of the interface in order for successful operation (e.g., notification of an operator before sending a media shipment).

Situations requiring operations personnel to be present at both ends of the interface to complete an activity can become very complicated primarily because of the fifteen hour time difference (standard time) between the two locations involved (Sioux Falls South Dakota is 15 hours behind Japan). For example, 5 p.m. at EDC, central standard time, is 8 a.m. the next day in Japan. During daylight savings time in the US, 5 p.m. at EDC would be 7 a.m. in Japan. Most routine operations questions will be handled by the shift P~~p~~roduction M~~m~~onitor at EDC and by the ASTER GDS SDPS Operations Supervisor~~TBS~~ at ASTER GDS. Arrangements to support specific operations with overlapping coverage at both ends will have to be negotiated in advance between the two facilities. Special requests may not receive a response until the next business day.

4.3.1 Transmittal of Level 1 ASTER Data to EDC DAAC on Tape (ICD 4.6.3)

1. Daily the ASTER GDS will copy the current ASTER Level 1 data to tape for transmittal to EDC. ASTER GDS will store Level 1A and Level 1B products on D3 tapes. A maximum of three D3 tapes will be created by ASTER GDS per day of science data - up to two tapes will contain Level 1A data. The tape

format is illustrated in the ICD Section 4.6.3.. ~~The external label on each tape cartridge will consist of a bar code as specified in the ICD. This label is placed on top of the D3 tape by GDS personnel.~~

The transmittal tapes are expected to be shipped to EDC daily (once every 24 hours) on a nominal basis. During anomalies, the tapes may be accumulated and shipped in larger batches (ICD 4.6.3).

2. Occasionally, tapes will be prepared and shipped to EDC containing either replacement data or reprocessed data. Replacement data is prepared when EDC requests a replacement tape due to an error occuring during a media ingest operation which prevented the ECS from capturing all the data from the original tape. Reprocessed data is a new version of the data produced from a new algorithm version and is delivered as new data products for already existing days under a previous version. Additional D3 tapes containing either replacement or reprocessed Level 1 data products will be written according to the guideline defined in step 1. Replacement data will contain the same identifiers as in the original data. Reprocessed Level 1A data products shall be identified uniquely as distinct from the original data products. The File IDs for reprocessed Level 1A data products are each unique identifiers which will not show any relation to the original product. ASTER Level 1A metadata will include a reprocessing/actual message which indicates the number of reprocessing. Level 1B data will not have any identifier to show that it is a reprocessed data product, but will be grouped with the relevant Level 1A data on the delivered tapes~~.~~ .

3. Each tape shall contain a Product Delivery Record file (PDR). The PDR contains the File IDs of all files contained on that specific tape. This way EDC operations can determine which files are on which tapes by reading the PDR.

4. ASTER GDS will Email a Data Shipping Notice via the EBnet Email server at EDC to the EDC~~ECS~~ DAAC Operations Supervisor ~~at EDC~~ when tapes for delivery have been completed and are ready to put into the mail (ICD 6.4.2). The format and contents of the Data Shipping Notice and the standard Email Header are shown in the ICD section 4.6.3. The File Naming Convention is also described in ICD section 4.6.3.

5. ASTER GDS will place a bar code label on the spine of each D3 tape cartridge as defined in the ICD and will also provide ~~place~~ an additional visual label and place it on each ~~on the~~ cartridge as follows:

Level 1A (or 1B) data from ASTER_GDS to ECS
End date/time of tape creation SN/Total No. Cassette ID
Start date/time of observation - End date/time of observation
Files Included

Where,

End date/time of tape creation = YYYY.MM.DD (hh:mm:ss)

SN/Total No = Sequence Number/Total No. - e.g., tape 1 of 3

Cassette ID = A numeric value (which is equal to the Volume ID of the tape - TBD)

Start date/time of observation = YYYY.MM.DD (hh:mm:ss)

End date/time of observation = YYYY.MM.DD (hh:mm:ss)

= A numeric value equaling the total file count on the tape, where a Level 1A data file plus all its browse (level 1B) files equals one (1) file.

The above cartridge labels should be removable to facilitate tape recycling at EDC. GDS Operations personnel will prepare an external shipping label and apply it to the outside of the package containing the D3 tapes. The external shipping label will contain the address for media ingest information shown in the table in Section 4.1.1 of this document. Information on the outside of the package will display the standard statement for US Customs Service shown in the same table~~ TBS~~.

7. EDC operations personnel will initiate the ECS Media Ingest function, which will read the tapes and ingest the ASTER Level 1 products into ECS. If the Media Ingest function cannot read the PDR, EDC will not attempt to read the rest of the tape. The ECS will generate a PDR Discrepancy (PDRD) Email message and send it to the EDC Operator. The EDC Production Monitor will capture the bar code information from the defective tape and include it with~~in~~ the PDRD message and will include any additional analysis information to assist in problem determination at GDS. The EDC Production Monitor will also add a specific statement to the message~~ally~~ requesting a replacement tape then forward the PDRD Email to the ASTER GDS SDPS Operations Supervisor~~ (TBD)~~. The PDRD format is shown in Appendix B.~~ The GDS Operations Supervisor (TBD) may at this time request the tape be returned for troubleshooting purposes via a return Email message to the EDC Production Monitor.~~ If the tape is physically damaged, EDC will notify the ASTER GDS SDPS Operations Supervisor~~ (TBD)~~ by Email or telephone and will identify the Volume ID from the bar code or DSN. In this case, EDC will request a retransmission of the tape and~~ GDS~~ will not ~~request~~ return~~ of~~ the damaged tape. Generally, however, tapes that produce an error upon read will be returned intact with the bar code and exterior labels in place for troubleshooting purposes.

8. Once the PDR is read by the Media Ingest function, i~~I~~f no PDRD is generated, a Production Acceptance Notification (PAN) message will be generated as Level 1 files are ingested into ECS. The PAN format is shown is Appendix B. The PAN will be Emailed to the EDC Operator by the ECS. If there are problems reading any of the files on the tapes, the EDC~~ECS~~ DAAC Production~~Operations~~ Monitor~~) at EDC~~ will insert the Volume ID from the DSN or bar code into the PAN for that tape, include any analysis information, insert a specific request for a retransmission of the entire tape from GDS into the PAN Email message, and notify the ASTER GDS SDPS Operations Supervisor ~~(TBD)~~by forwarding the PAN via Email. Unreadable tapes or tapes containing unreadable files will~~can~~ be returned to ~~ASTER for troubleshooting support if requested by~~ ASTER. If all the files are retrieved from the tape, the PAN generated will be less than 500K in size and will be sent to the GDS by forwarding Email from the EDC Production Monitor to the ASTER GDS SDPS Operations Supervisor. If tapes are received without the corresponding Data Shipping Notice, or a DSN is received without the corresponding tapes, the EDC~~ECS~~ DAAC Operations Supervisor~~ at EDC~~ will telephone or Email the ASTER GDS SDPS Operations

Supervisor about the problem. In this manner, every tape received at EDC will trigger a unique Email at EDC which will be forwarded to the ASTER GDS Operations Supervisor - one message per tape.

9. EDC will mail to the ASTER GDS, at the address shown in Section 4.1.2, boxes of certified D3 tapes sufficient for 45 days of nominal operations (approximately 135 tapes) prior to launch. **EDC will replenish the ASTER GDS supply of tapes at periods prior to depletion of the previous batch during the operations phase depending on usage frequency as requested by ASTER GDS personnel.

EDC will recycle used tapes back to GDS after the data has been ingested, except for those tapes which areGDS wishes to have sent back intact for troubleshooting purposes. EDC will degauss and certify the recycledrest of the used tapes then remove the bar code sticker and visual label prior to returnsending them to GDS.

10. When a user requests reprocessing of a defective Level 1 product, the user will contact the EDC User Serviceshelp desk which will notify the EDC ProductionOperations Monitor. The ProductionOperations Monitor will notify the GDS via Email to request reprocessing and enter a subscription for the reprocessed file for that user. . When reprocessed data is produced, GDS Operations will forward the reprocessed product to EDC. Notification will be sent by GDS to EDC for use by the EDC User Serviceshelp desk concerning the difference between the new data and the previous version and how that reprocessingreplacement was accomplished.

4.3.2 Transmittal of Level 1 ASTER Science Software to EDC

The transmittal of Level 1 ASTER Science Software to EDC is discussed in the Science Software Integration and Test (SSI&T) Procedures Document Between the GSFC ESDIS Project and the ASTER GDS for the ASTER Level 1 Software, March 25, 1997.

GDS will send updates to the Level 1 software to EDC via physical media (TBD) whenever updates are made.NOTE: If, at a certain point during the operational phase, ASTER does not plan on developing any new SS upgrades for delivery to EDC, then this section may be deleted,

4.3.3 Data Acquisition Request (DAR) Gateway

1. The ECS DAR User Profile information will be sent from EDC to the GDS via Email generated by the DAR tool upon setup when the ECS DAR user has newly been registered in ECS and whenever the profile item(s) of the user have been updated. If the user category which is related with DAR Budget needs to be changed, then such change has to be approved by the necessary process through the US ASTER Science Team. (AST). The update of the ECS DAR User Profile information will completely be the responsibility of EDC.

NOTE: A new Email message format proposed by ERSDAC, with the standard Email header, will be used and will be put into the ICD as a change.

2. Information necessary for the DAR Gateway to function properly include the ASTER User Categories, DAR Budget Allocations, and User Category literal definitions (40 characters long each). These will be established by the joint US-Japan AST. GDS will discuss with Japan AST to create the table containing the User Category IDs and corresponding allocations and GDS will maintain them within the GDS. EDC will receive from the US AST the User Category IDs and corresponding literal definitions and EDC will maintain them within ECS.

3. The ECS operations personnel at EDC will take the lead in troubleshooting and resolution for problems involving DAR communications. Problems with the DAR Gateway will be reported to the ASTER GDS SDPS Operations Supervisor ~~(TBR)~~ via internet Email or telephone ~~(TBD)~~.

4. Initial Operations: If there is a need for a remaining DAR Budget request in the first 60 days after launch, an ECS operator at EDC will generate the Remaining DAR Budget Request according to the agreed format and will send the Remaining DAR Budget Request as an Email to GDS. This Email will be sent over EBnet. The GDS will reply with the Remaining DAR Budget information in the agreed format directly to the user identified in the User ID. This reply will be sent over the internet.

4.3.4 Transmittal of Level 1 Calibration Files to EDC

The GDS will send calibration files for Level 1 processing to the EDC when new calibration files are generated. GDS will propose an operational procedure for this purpose (TBD).

4.3.5~~4~~ ~~ECS~~ Required Interface Operations Support ~~for ASTER GDS~~

The EDC-to-ASTER GDS interface within ECS is primarily concerned with setup and configuration of the ground system databases and interfaces prior to or in conjunction with the operations phase of the mission on a day-to-day basis. ECS-specific operations items will be maintained by ECS operations personnel at the EDC DAAC. Set-up and maintenance of ASTER GDS-specific items within the ASTER GDS will be the responsibility of ASTER GDS operations personnel.

1. ECS Operations Personnel at EDC are responsible for maintaining the mapping on the ASTER Gateway which contains a terminology mapping between the ECS and ASTER GDS for communications purposes (ICD 4.6.1). If there is a problem on the ASTER Gateway that could affect Japanese users who access

ECS, EDC will notify the ASTER GDS by telephone or Email, so that GDS can supply informed answers to user questions.

2. Valids are to be exchanged between ECS and the ASTER GDS via Email as required. The information sent from ASTER GDS includes both Data Dictionary Valids and directory information. The EDC will parse this file and use its components in the Advertising Service and Data Dictionary as needed. Likewise, the EDC will create and send via Email the Valids file to the ASTER GDS in the same format as the file sent from ASTER with the exception that the directory group is omitted. (ICD 6.6)

3. EDC~~CS~~ DAAC operations personnel ~~at EDC~~ and ASTER GDS operations personnel will support communications troubleshooting and resolution for communications problems between the ASTER GDS and EDC. ~~Maintenance of packet and port filtering functions between the EBnet, ECS, and ASTER Data Network will be jointly supported.~~ The EDC~~ECS~~ DAAC Operations Supervisor will report communications problems to the ASTER GDS SDPS Operations Supervisor ~~(TBR)~~ and the appropriate group within the EBnet or ECS Communications System and Management subsystem areas within EOSDIS and will serve as the POC for resolution follow-up from the EOSDIS side. The ASTER GDS SDPS Operations Supervisor ~~(TBR)~~ will report communications problems to EDC and to the appropriate group within ASTER GDS and will serve as the POC for resolution follow-up from the GDS side. Notification of communications problems will be via internet Email (preferred) or telephone ~~(TBD)~~.

4. The EDC~~S~~ DAAC operations personnel ~~at EDC~~ will take the lead in troubleshooting and resolution for problems involving catalog interoperability and any other functions of the ASTER Gateway between the EDC and the GDS. Problems with the ASTER Gateway and any of the other ECS subsystems will be reported to the ASTER GDS SDPS Operations Supervisor ~~(TBR)~~ via internet Email (preferred) or telephone ~~(TBD)~~ as well as the relevant ECS and EBnet personnel.

5. The GDS Guide for ASTER Level 1 data and subsequent updates will be delivered periodically by the ASTER GDS to the ECS DAAC at EDC on Digital Audio Tape (DAT) tape media (TBD - this is pending an ICD change which has not been approved as of this writing). The ASTER GDS SDPS Operations Supervisor ~~(TBD)~~ will send DAT tapes to EDC at the same address for media ingest shown in Section 4.1.1 in this document. EDC operations personnel will ingest the GDS Guide and make the documents available as part of the ECS guide holdings. (ICD 6.7)

~~6. ASTER GDS will be provided access to the EOS Long Term Science Plan, Long Term Instrument Plan, and Long Term Spacecraft Operations Plan through EBnet access via ECS bulletin board services by EDC entering ASTER AOT and IOT addresses (TBD) to the access groups which have access to these messages.~~

6~~7~~. The EDC DAAC and the ASTER GDS will exchange system status information (i.e. system management information and event notifications) via Email. Exchanged information will include system running status information and maintenance scheduling information. The information will be formatted for automated import to and export from the Remedy Action Request System (ARS) to/from a custom problem tracking system on the ASTER GDS side. The interface (ECS CSMS or ASTER GDS) whose system running status changes will send its information to the other interface. (ICD 8.0) The notification will be sent between EDC and the ASTER GDS via SMTP Email Event Notification Message (ICD 8.3). The Event Notification template, the mapping between site names and site IDs, the Affected Service Identification, and the standard GDS_Header format to be used by both sites are shown in the ICD section 8.3.

7~~8~~. EDC~~ECS~~ User Services~~help desk~~ personnel ~~at EDC~~ will provide support to US ASTER products and the Level 1A and 1B data products from ASTER GDS. The ASTER GDS will provide help desk support for Japanese users.

Appendix A. Work-off Plan

OA Issue #	OA Para. #	OA Issue Description	Work-off Plan Task(s)	Projected Resolution Date
1	4.3	Is the GDS operated 24X7 - TBD		
2	4.1	Decide shipping method - FedEx, UPS, etc...		
3	4.3.1	Does the Cassette ID = Volume ID on tape label		
4	4.3.3	How will transferrals for Science Software updates be handled (DAT, 8mm, ?)?		
5	4.3.4	Need proposal from GDS on how to transfer Level 1 Calibration files to EDC		
6	4.3.5	ASTER Gateway Termi nology Mapping - where is it specified? Should it be in this document as Operator Tunable Parameters		
7	4.3.5	Valids are to be exchanged - do the valids need to be listed in this OA? Need to specify the Email accounts for the exchange of valids.		
8	4.3.5	Event Notifications need to include site mappings, site IDs, affected service IDs, etc...Do these items need to be included in this OA?		
9	4.3.5	DAT tapes has ICD change as TBD - delete when approved		

Appendix B. PDRD and PAN Formats

B.1 Product Delivery Record Discrepancy File

The Product Delivery Record Discrepancy file is sent by the DAAC to the EDC Operator only in the event that the PDR cannot be validated. A PDR specifies one or more file groups, which may contain one or more file specs. Processing of the file group in a PDR ceases when the first error in that file group is found. There may be further errors in the file group, but only this first error is reported. The PDR Discrepancy file identifies the disposition of the file group - either successful, or which error or problem that was found, but not the file spec in which it was found.

There are two forms of PDR Discrepancy files: a short form and a long form. The short form is used for PDRs with errors that are not attributable to specific file groups, such as transfer errors. The long form is used when the file group in the PDR has invalid parameters. The short form is specified in Table B-1; the long form is specified in Table B-2. An example of each is shown in Figure B-3.

The PDR Discrepancy file naming convention is:

ORIGINATING_SYSTEM.yyyymmddhhmmss.PDRD

where: ORIGINATING_SYSTEM. = value of originating system provided in PDR

yyyymmdd = date of creation of associated PDR file
hhmmss = time of creation of associated PDR file
.PDRD = constant, file extension which identifies this as a PDR Discrepancy file (DAAC nomenclature)

for example: GDSKUJ.19991127221345.PDRD

The file name of the PDR Discrepancy file is placed in the subject line of the e-mail message. The body of the e-mail message contains the parameters and values in Tables B-1 or B-2.

PARAMETER NAME	SIZE (ASCII BYTES)	VALUE, FORMAT, RANGE, AND UNITS	PARAMETER DESCRIPTION / REMARKS
MESSAGE_TYPE	9	= SHORTPDRD;	Identifies this as a Short PDR Discrepancy file
DISPOSITION	up to 64	= one of the following: "INVALID FILE COUNT"; "ECS INTERNAL ERROR"; "DATABASE FAILURES"; "INVALID PVL STATEMENT"; (note 1) "MISSING OR INVALID ORIGINATING_SYSTEM PARAMETER"; "DATA PROVIDER REQUEST THRESHOLD EXCEEDED"; "DATA PROVIDER VOLUME THRESHOLD EXCEEDED"; "SYSTEM REQUEST THRESHOLD EXCEEDED"; "SYSTEM VOLUME THRESHOLD EXCEEDED";	The discrepancy that was found in the PDR file. Only the first error encountered is given.

note 1: Should be interpreted as invalid statement format

Table B-1 Short Product Delivery Record Discrepancy File Format

PARAMETER NAME	SIZE (ASCII BYTES)	VALUE, FORMAT, RANGE, AND UNITS	PARAMETER DESCRIPTION / REMARKS
MESSAGE_TYPE	8	= LONGPDRD;	Identifies this as a Long PDR Discrepancy file
NO_FILE_GRPS	1	= 1;	Number of file groups to follow
DATA_TYPE	8	= ASTERL1A (B) - TBD;	Data type from PDR.
DISPOSITION	up to 64	= one of the following: "SUCCESSFUL"; (note 1) "INVALID DATA TYPE"; "INVALID DIRECTORY"; "INVALID FILE SIZE"; "INVALID FILE ID"; "INVALID NODE NAME"; "INVALID FILE TYPE";	The discrepancy that was found in the PDR file. Only the first error encountered is given. All checks except file size are for null strings. File size is checked for null string, <0, =0, and 32GB.

Table B-2 Long Product Delivery Record Discrepancy File Format

```
MESSAGE_TYPE = SHORTPDRD;
DISPOSITION = "INVALID PVL STATEMENT";
```

```
MESSAGE_TYPE = LONGPDRD;
NO_FILE_GRPS = 1;
DATA_TYPE  = ASTERL1A (B) - TBD;
DISPOSITION = "INVALID FILE SIZE";
```

Figure B-3 Example of Short and Long Product Delivery Record (PDR) Discrepancy Files

F.1.3 Production Acceptance Notification File

The Production Acceptance Notification (PAN) file announces the completion of data transfer and archival of the metadata file(s), and identifies any errors or problems that were encountered. The PDR specifies one or more file groups; there may be one or more files being processed within the file group. All files are checked and reported on, regardless of the number of files found with errors or the number of errors found in each file. However, only the first error in each file is reported.

There are two forms of PAN files: a short form and a long form. The short form is sent to acknowledge that all files have been successfully transferred, or to report errors which are not specific to individual files but which have precluded processing of any and all files. If an error was found in a specific file, a long form PAN is sent. The last four fields of the long form are repeated for each file. The short form is specified in Table B-4; the long form is specified in Table B-5. An example of each is shown in Figure B-6.

The PAN file naming convention is:
ORIGINATING_SYSTEM.yyyymmddhhmmss.PAN

where: ORIGINATING_SYSTEM. = value of originating system provided in PDR

yyyymmdd = date of creation of associated PDR file
hhmmss = time of creation of associated PDR file
.PAN = constant, file extension which identifies this as a PAN file

for example: GDSKUJ.19991127221345.PAN

The file name of the PAN file is placed in the subject line of the e-mail message. The body of the e-mail message contains the parameters and values in Table B-4 or B-5.

PARAMETER NAME	SIZE (ASCII BYTES)	VALUE, FORMAT, RANGE, AND UNITS	PARAMETER DESCRIPTION / REMARKS
MESSAGE_TYPE	8	= SHORTPAN;	Identifies this as a Short PAN file
DISPOSITION	up to 64	= one of the following: "SUCCESSFUL"; "NETWORK FAILURE"; "UNABLE TO ESTABLISH FTP/KFTP CONNECTION"; "ALL FILE GROUPS/FILES NOT FOUND"; "FTP/KFTP FAILURE"; "POST-TRANSFER FILE SIZE CHECK FAILURE"; "FTP/KFTP COMMAND FAILURE"; "DUPLICATE FILE NAME IN GRANULE"; "METADATA PREPROCESSING ERROR"; "RESOURCE ALLOCATION FAILURE"; "ECS INTERNAL ERROR"; "DATA BASE ACCESS ERROR"; "INCORRECT NUMBER OF METADATA FILES"; "INCORRECT NUMBER OF SCIENCE FILES"; "INCORRECT NUMBER OF FILES"; "DATA CONVERSION FAILURE"; "REQUEST CANCELLED"; "UNKNOWN DATA TYPE"; "INVALID OR MISSING FILE TYPE"; "FILE I/O ERROR"; "DATA ARCHIVE ERROR";	The disposition of processing the metadata file(s). Only the first error encountered is given.
TIME_STAMP	20	= yyyy-mm-ddThh:mm:ssZ; where: yyyy-mm-dd = date "T" = literal indicating start of time field hh:mm:ss = time "Z" = literal indicating Zulu time	GMT (Zulu)ISO time when DAAC system transferred the last part of data

Table B-4 Short Production Acceptance Notification (PAN) File Format

PARAMETER NAME	SIZE (ASCII BYTES)	VALUE, FORMAT, RANGE, AND UNITS	PARAMETER DESCRIPTION / REMARKS
MESSAGE_TYPE	7	= LONGPAN;	Identifies this as a Long PAN file
NO_OF_FILES	1	= 1; or = 2;	Number of files in the PDR
FILE_DIRECTORY	18	=/GDS/META/xxx/DATA - TBD;	DIRECTORY_ID parameter from the PDR
FILE_NAME	24	=ASTERpppprrryyyymmddf.MTA; where: TBD	FILE_ID parameter from the PDR
DISPOSITION	up to 64	= one of the following: "SUCCESSFUL"; "NETWORK FAILURE"; "UNABLE TO ESTABLISH FTP/KFTP CONNECTION"; "ALL FILE GROUPS/FILES NOT FOUND"; "FTP/KFTP FAILURE"; "POST-TRANSFER FILE SIZE CHECK FAILURE"; "FTP/KFTP COMMAND FAILURE"; "DUPLICATE FILE NAME IN GRANULE"; "METADATA PREPROCESSING ERROR"; "RESOURCE ALLOCATION FAILURE"; "ECS INTERNAL ERROR"; "DATA BASE ACCESS ERROR"; "INCORRECT NUMBER OF METADATA FILES"; "INCORRECT NUMBER OF SCIENCE FILES"; "INCORRECT NUMBER OF FILES"; "DATA CONVERSION FAILURE"; "REQUEST CANCELLED"; "UNKNOWN DATA TYPE"; "INVALID OR MISSING FILE TYPE"; "FILE I/O ERROR"; "DATA ARCHIVE ERROR";	The disposition of processing the metadata file(s). Only the first error encountered is given.
TIME_STAMP	20	= yyyy-mm-ddThh:mm:ssZ; where: yyyy-mm-dd = date "T" = literal indicating start of time field hh:mm:ss = time "Z" = literal indicating Zulu time	GMT (Zulu)ISO time when DAAC system transferred the last part of data
The last four parametersfields (FILE_DIRECTORY, FILE_NAME, DISPOSITION, and TIME_STAMP) are repeated for each file in the PDR.			

Table B-5 Long Production Acceptance Notification (PAN) File Format

```
MESSAGE_TYPE = SHORTPAN;
DISPOSITION = "INCORRECT NUMBER OF METADATA FILES";
TIME_STAMP = 1999-06-23T09:46:35Z;
```

```
MESSAGE_TYPE = LONGPAN;
NO_OF_FILES = 2;
FILE_DIRECTORY = /GDS/META/KUJ/DATA;
FILE_NAME = ASTER110035199911271.MTA;
DISPOSITION = "INVALID OR MISSING FILE TYPE";
TIME_STAMP = 1999-06-23T09:46:35Z;
FILE_DIRECTORY = /GDS/META/KUJ/DATA;
FILE_NAME = ASTER110035199911272.MTA;
DISPOSITION = "SUCCESSFUL"
TIME_STAMP = 1999-06-23T09:46:36Z;
```

Figure B-6 Example of Short and Long Production Acceptance Notification (PAN) Files

ACRONYM LIST

ADN	ASTER Data Network
ARS	Action Request System
AST	ASTER Science Team
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
CMS	Customer Management System
CSMS	Communications and Systems Management Segment
DAAC	Distributed Active Archive Center
DADS	Data Archival and Distribution
DAR	Data Acquisition Request
DAT	Digital Audio Tape
DSN	Data Shipping Notice
EBnet	EOSDIS Backbone Network
ECS	EOSDIS Core System
EDC	EROS Data Center
EDN	EDS Data Notification
EDOS	EOS Data and Operations System
Email	Electronic Mail
EOS	Earth Oberserving System
EOSDIS	EOS Data and Information System
EROS	Earth Resources Observing System
ERSDAC	Earth Remote Sensing Data Analysis Center
ESDIS	Earth Science Data and Information System
GDS	Ground Data System
GSFC	Goddard Space Flight Center
ICD	Interface Control Document
ID	Identification
IP	Internet Protocol
IRD	Interface Requirements Document
MITI	Ministry of International Trade and Industry
N/A	Not Applicable
NASA	National Aeronautics and Space Administration
NASCOM	NASA Communications Division
OA	Operations Agreement
PAN	Production Acceptance Notification
PDR	Product Delivery Record
PDRD	PDR Discrepancy
POC	Point of Contact
SDPS	Science Data Processing Segment
SMTP	Simple Mail Transmission Protocol
SN	Sequence Number
SDPS	Science Data Processing System
SS	Science Software
SSI&T	Science Software Integration and Test Procedures
TBD	To Be Determined
TSUS	Tariff Schedules of the United States
USGS	United States Geological Survey