27 August 1995

NISS_IRD_FPRS_LINKS_CORRECTIONS

IRD	IRD_segment	IRD_text	IRD_clarification	FPRS	L3_type	L3_segment	L3_text	L3_clarification
NI-0010	FOS | SDPS | CSMS	ECS shall have the capability to communicate with the TDRSS via the EDOS/Ecom interface.		EOSD0010	operational	FOS	ECS shall use and support the Space Network (SN), via the EDOS/Ecom interface, to obtain the forward and return link data communications needed to achieve full end-to-end ECS functionality.	
				EOC-4005	functional	FOS	The EOC shall be capable of transmitting commands to the EOS spacecraft via EDOS using the:a.SNb.GN, DSN, WOTS (for contingency or emergency operations)	
				EOC-4008	functional	FOS	The EOC shall be capable of transmitting commands via Ecom.	
				EOSD1502	interface	FOS/SDPS	ECS elements shall use Ecom for data communications for the following types of data:a.Production data sets (Level 0 data)b.Quick-look production data setsc.Real-time data (for health and safety)d.Command datae.Data requested from back-up archivef.TDRSS schedule requestsg.Data exchange with the FDF	
				EOSD0025	operational	CSMS	ECS shall use Ecom for flight operations data transfers.	
NI-0020	FOS | CSMS	ECS shall have the capability to communicate with the TDRSS for transmitting commands to EOS spacecraft (via the EDOS/Ecom interface). Mission-specific requirements for supporting EOS spacecraft command operations will be documented in the EOS mission-level Detailed Mission Requirements documents.		EOSD0010	operational	FOS	ECS shall use and support the Space Network (SN), via the EDOS/Ecom interface, to obtain the forward and return link data communications needed to achieve full end-to-end ECS functionality.	

				EOSD1502	interface	FOS/SDPS	ECS elements shall use Ecom for data communications for the following types of data:a.Production data sets (Level 0 data)b.Quick-look production data setsc.Real-time data (for health and safety)d.Command datae.Data requested from back-up archivef.TDRSS schedule requestsg.Data exchange with the FDF	
				EOC-4008	functional	FOS	The EOC shall be capable of transmitting commands via Ecom.	
				EOC-4005	functional	FOS	The EOC shall be capable of transmitting commands to the EOS spacecraft via EDOS using the:a.SNb.GN, DSN, WOTS (for contingency or emergency operations)	
NI-0030	FOS | SDPS | CSMS	ECS shall have the capability to interface with the TDRSS for obtaining return link (telemetry) data from EOS spacecraft (via the EDOS/Ecom interface). Mission-specific requirements for supporting EOS spacecraft telemetry operations will be documented in the EOS mission Detailed Mission Requirements documents.		EOSD0010	operational	FOS	ECS shall use and support the Space Network (SN), via the EDOS/Ecom interface, to obtain the forward and return link data communications needed to achieve full end-to-end ECS functionality.	
				EOSD1502	interface	FOS/SDPS	ECS elements shall use Ecom for data communications for the following types of data:a.Production data sets (Level 0 data)b.Quick-look production data setsc.Real-time data (for health and safety)d.Command datae.Data requested from back-up archivef.TDRSS schedule requestsg.Data exchange with the FDF	
NI-0110	FOS | CSMS	ECS shall have the capability to communicate with the NCC via the Ecom interface.		EOSD0025	operational	CSMS	ECS shall use Ecom for flight operations data transfers.	

				EOSD1502	interface	FOS/SDPS	ECS elements shall use Ecom for data communications for the following types of data:a.Production data sets (Level 0 data)b.Quick-look production data setsc.Real-time data (for health and safety)d.Command datae.Data requested from back-up archivef.TDRSS schedule requestsg.Data exchange with the FDF	
NI-0120	FOS	ECS shall have the capability to send TDRSS schedule requests to the NCC. These messages will be defined in the ICD Between the GSFC MOCs and the NCCDS.		EOSD1530	interface	FOS	ECS elements shall submit TDRSS schedule requests to the NCC.	
				EOSD1502	interface	FOS/SDPS	ECS elements shall use Ecom for data communications for the following types of data:a.Production data sets (Level 0 data)b.Quick-look production data setsc.Real-time data (for health and safety)d.Command datae.Data requested from back-up archivef.TDRSS schedule requestsg.Data exchange with the FDF	
				EOC-2520			If additional TDRSS schedule needs are identified while generating or updating a detailed activity schedue, the EOC shall make a request to the NCC for additional TDRSS services.	
				EOC-2400	functional	FOS	The EOC shall submit the TDRSS schedule requests to the NCC.	
NI-0130	FOS	ECS shall have the capability to receive schedule result messages from the NCC. These messages will be defined in the ICD Between the GSFC MOCs and the NCCDS.		EOC-2410	functional	FOS	The EOC shall accept from the NCC notification of rejection along with the reason for rejection, when all or a portion of the TDRSS schedule request cannot be accommodated.	
				EOC-4060	functional	FOS	The EOC shall provide the capability to exchange messages with the NCC, which include at a minimum status and reconfiguration messages.	

				EOC-5030	functional	FOS	The EOC shall provide the capability to receive and process, non-telemetry data, which includes at a minimum the following:a.Messages from the NCCb.Monitor blocks from the DSN, GN, and WOTSc.Status messages from EDOS	
NI-0140	FOS			EOC-4060	functional	FOS	The EOC shall provide the capability to exchange messages with the NCC, which include at a minimum status and reconfiguration messages.	
				EOC-5030	functional	FOS	The EOC shall provide the capability to receive and process, non-telemetry data, which includes at a minimum the following:a.Messages from the NCCb.Monitor blocks from the DSN, GN, and WOTSc.Status messages from EDOS	
				EOSD1520			ECS elements shall receive TDRSS schedules from the Network Control Center (NCC).	
				EOC-2405			The EOC shall accept the forecast TDRSS schedule from the NCC.	
NI-0150	FOS	ECS shall have the capability to send other non-telemetry data messages to the NCC, which includes at a minimum status and reconfiguration messages. These messages will be defined in the ICD Between the GSFC MOCs and the NCCDS.		EOC-4060	functional	FOS	The EOC shall provide the capability to exchange messages with the NCC, which include at a minimum status and reconfiguration messages.	
NI-0160	FOS	ECS shall have the capability to receive other non-telemetry data messages from the NCC, which includes at a minimum status and reconfiguration messages. These messages will be defined in the ICD Between the GSFC MOCs and the NCCDS.		EOC-4060	functional	FOS	The EOC shall provide the capability to exchange messages with the NCC, which include at a minimum status and reconfiguration messages.	

				EOC-5030	functional	FOS	The EOC shall provide the capability to receive and process, non-telemetry data, which includes at a minimum the following:a.Messages from the NCCb.Monitor blocks from the DSN, GN, and WOTSc.Status messages from EDOS	
NI-0170	FOS	ECS shall have the capability to communicate with the NCC to coordinate support from GN, DSN, and WOTS for EOS missions. This interface is defined in the Operations Interface Procedures Between the Network Control Center (NCC) and the Spaceflight Tracking and Data Network Users.		EOC-2535	functional	FOS	The EOC shall be capable of scheduling the use of the DSN, GN, or WOTS, in the event of an emergency or contingency that prevents communication through the TDRSS.	
NI-0210	FOS | CSMS	ECS shall have the capability to communicate with the GN, DSN, and WOTS via the EDOS/Ecom interface.		EOSD0025	operational	CSMS	ECS shall use Ecom for flight operations data transfers.	
				EOSD0015	operational	FOS/SDPS	ECS shall use and support the Deep Space Network (DSN), the Ground Network (GN), and the Wallops Orbital Tracking Station (WOTS), via the EDOS/Ecom/Nascom interface, as backup of the SN, to obtain forward and return link data communications.	
				EOC-4008	functional	FOS	The EOC shall be capable of transmitting commands via Ecom.	
				EOC-4005	functional	FOS	The EOC shall be capable of transmitting commands to the EOS spacecraft via EDOS using the:a.SNb.GN, DSN, WOTS (for contingency or emergency operations)	

				EOSD1502	interface	FOS/SDPS	ECS elements shall use Ecom for data communications for the following types of data:a.Production data sets (Level 0 data)b.Quick-look production data setsc.Real-time data (for health and safety)d.Command datae.Data requested from back-up archivef.TDRSS schedule requestsg.Data exchange with the FDF	
NI-0220	FOS | CSMS	ECS shall have the capability to communicate with the GN, DSN, and WOTS for transmitting commands to EOS spacecraft (via the EDOS/Ecom interface). Mission-specific requirements for supporting EOS spacecraft command operations will be documented in the EOS mission-level Detailed Mission Requirements documents.		EOC-4005	functional	FOS	The EOC shall be capable of transmitting commands to the EOS spacecraft via EDOS using the:a.SNb.GN, DSN, WOTS (for contingency or emergency operations)	
				EOC-4008	functional	FOS	The EOC shall be capable of transmitting commands via Ecom.	
				EOSD0015	operational	FOS/SDPS	ECS shall use and support the Deep Space Network (DSN), the Ground Network (GN), and the Wallops Orbital Tracking Station (WOTS), via the EDOS/Ecom/Nascom interface, as backup of the SN, to obtain forward and return link data communications.	
NI-0230	FOS | CSMS	ECS shall have the capability to interface with the GN, DSN, and WOTS for obtaining return link (telemetry) data from EOS spacecraft (via the EDOS/Ecom interface). Mission-specific requirements for supporting EOS spacecraft telemetry operations will be documented in the EOS mission-level Detailed Mission Requirements documents.		EOSD0015	operational	FOS/SDPS	ECS shall use and support the Deep Space Network (DSN), the Ground Network (GN), and the Wallops Orbital Tracking Station (WOTS), via the EDOS/Ecom/Nascom interface, as backup of the SN, to obtain forward and return link data communications.	

				EOSD1502	interface	FOS/SDPS	ECS elements shall use Ecom for data communications for the following types of data:a.Production data sets (Level 0 data)b.Quick-look production data setsc.Real-time data (for health and safety)d.Command datae.Data requested from back-up archivef.TDRSS schedule requestsg.Data exchange with the FDF	
NI-0240				EOC-5030	functional	FOS	The EOC shall provide the capability to receive and process, non-telemetry data, which includes at a minimum the following:a.Messages from the NCCb.Monitor blocks from the DSN, GN, and WOTSc.Status messages from EDOS	
NI-0250	FOS | CSMS	ECS shall be expandable to support the capability to communicate with the DSN and WOTS to schedule support for EOS spacecraft beyond AM-1 (in accordance with NASA policy and procedures).		EOC-2535	functional	FOS	The EOC shall be capable of scheduling the use of the DSN, GN, or WOTS, in the event of an emergency or contingency that prevents communication through the TDRSS.	
NI-0310	FOS | SDPS | CSMS	ECS shall have the capability to communicate with the FDF via the Ecom interface.		EOSD1502	interface	FOS/SDPS	ECS elements shall use Ecom for data communications for the following types of data:a.Production data sets (Level 0 data)b.Quick-look production data setsc.Real-time data (for health and safety)d.Command datae.Data requested from back-up archivef.TDRSS schedule requestsg.Data exchange with the FDF	
				EOSD0025	operational	CSMS	ECS shall use Ecom for flight operations data transfers.	

NI-0330	FOS	ECS shall have the capability to send a subset of EOS spacecraft telemetry stream to the FDF, which includes the following:a.Attitude sensor datab.Navigation telemetry datac.Spacecraft maneuver telemetry data Mission-specific requirements for FDF support of EOS missions will be documented in the EOS mission-level Detailed Mission Requirements documents and FDF-developed ICDs.		EOSD1510	interface	FOS	ECS elements shall provide the FDF with subsets of spacecraft housekeeping data related to the on-board attitude and orbit systems.	
				EOC-5185	functional	FOS	The EOC shall provide the FDF with a subset of telemetry stream, which includes the following:a.Attitude sensor datab.Navigation telemetry datac.Spacecraft maneuver telemetry data	
NI-0340	FOS	ECS shall have the capability to receive planning and scheduling information for the EOS spacecraft and instruments from the FDF.Mission-specific requirements for FDF support of EOS missions will be documented in the EOS mission-level Detailed Mission Requirements documents and FDF-developed ICDs.		EOSD1505	interface	FOS	ECS elements shall receive EOS spacecraft predicted orbit data and post pass ephemeris determination data from the FDF.	
				EOC-2010	functional	FOS	The EOC shall accept from the FDF planning and scheduling information for the EOS spacecraft and instruments, which includes, at a minimum, the following:a.Predicted orbit data including predicted ground trackb.EOS spacecraft UAV datac.PSATsd. Spacecraft maneuver information	

NI-0350	FOS	ECS shall have the capability to receive parameters necessary for spacecraft command data generation from the FDF, including the following:a.Navigational operations parametersb.Spacecraft maneuver parametersMission-specific requirements for FDF support of EOS missions will be documented in the EOS mission-level Detailed Mission Requirements documents and FDF-developed ICDs.		EOC-3017	functional	FOS	The EOC shall accept from the FDF parameters necessary for spacecraft command data generation, including the following:a.Navigational operations parametersb.Spacecraft maneuver parameters	
NI-0360	SDPS	ECS shall have the capability to send a notification of orbit or attitude quality checks and request updated (refined/repaired) orbit or attitude data from the FDF when necessary. Mission-specific requirements for FDF support of EOS missions will be documented in the EOS mission-level Detailed Mission Requirements documents and FDF-developed ICDs.		PGS-0456	functional	SDPS	The PGS shall notify the FDF, via the DADS, of O/A quality checks and request updated (refined/repaired) O/A data from the FDF when necessary.	
NI-0365	SDPS	ECS shall have the capability to receive from FDF a notification of orbit or attitude quality checks. Mission-specific requirements for FDF support of EOS missions will be documented in the EOS mission-level Detailed Mission Requirements documents and FDF-developed ICDs.		PGS-0456	functional	SDPS	The PGS shall notify the FDF, via the DADS, of O/A quality checks and request updated (refined/repaired) O/A data from the FDF when necessary.	
NI-0370	SDPS	ECS shall have the capability to receive from FDF, at a minimum the following: a. Orbit data and associated metadatab.Attitude data and associated metadataMission-specific requirements for FDF support of EOS missions will be documented in the EOS mission-level Detailed Mission Requirements documents and FDF-developed ICDs.		EOSD1505	interface	FOS	ECS elements shall receive EOS spacecraft predicted orbit data and post pass ephemeris determination data from the FDF.	

				DADS0175	functional	SDPS	The GSFC DADS shall receive from FDF, at a minimum : a.Orbit datab.Attitude datac.Metadata	Deleted 1138 L2 trace. DV
NI-0400	CSMS	ECS shall have the capability to interface with NASA Data Processing Facilities (including the GSFC SDPF) via NOLAN to receive the following data (at a minimum):a.Science datab.Ancillary datac.Orbit data		EOSD1608	interface	FOS/CSMS	ECS elements shall receive from EPDSs the following at a minimum:a.Data productsb.Ancillary datac.Calibration datad.Correlative datae.Metadataf.Data informationg.Documentation	
				DADS0130	functional	SDPS	Each DADS shall receive from the EDOS and SDPF, at a minimum, the following:a.Production data (L0)b.Quick-look data	
				SDPS0110		SDPS	The SDPS shall be responsible for coordination of the transfer of production and quick-look science and engineering data from EDOS, SDPF, and the IPs.	
				SDPS0020		SDPS	The SDPS shall receive EOS science, engineering, ancillary, and quick-look data from the EDOS, the SDPF, and the IPs, and non-EOS data, in situ data, algorithms, documentation, correlative data, and ancillary data (as listed in Appendix C) from ADCs, EPDSs, and ODCs.	Deleted 604 L2 trace. DV
				ESN-0080	functional	CSMS	The ESN shall provide internal communications interfaces to GFE circuits provided by PSCN which link to:a.Specified ADCs b.Selected SCFsc.Selected EPDSs (Landsat-7, TRMM)d.Selected ISTs	Deleted 604 L2 trace. DV
				DADS2070	functional	SDPS	Each DADS shall interact with EDOS, SDPF, and SMC to resolve schedule conflicts.	
				DADS2020	functional	SDPS	Each DADS shall have the capability to receive data availability schedules at a minimum, from: a.EDOSb.IPsc.ADCsd.ODCse.Other DADSf.TRMM (SDPF)	

NI-0430	CSMS	ECS shall have the capability to receive notification of faults in the NOLAN network that may affect the quality of NOLAN services between ECS and its users.		EOSD0500	functional	FOS/SDPS/CSMS	ECS shall perform the following major functions:a.EOS Mission Planning and Schedulingb.EOS Mission Operationsc.Command and Controld.Communications and Networkinge.Data Inputf.Data Processingg.Data Storageh.Data Distributioni.Information Managementj.End-to-End Fault Managementk.System Management	
				ESN-0780	functional	CSMS	The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:a.Network round trip delayb.Network reset and restart indicationsc.Outages and CRC errorsd.Performance statistics	
NI-0440				EOSD0500	functional	FOS/SDPS/CSMS	ECS shall perform the following major functions:a.EOS Mission Planning and Schedulingb.EOS Mission Operationsc.Command and Controld.Communications and Networkinge.Data Inputf.Data Processingg.Data Storageh.Data Distributioni.Information Managementj.End-to-End Fault Managementk.System Management	

				ESN-0780	functional	CSMS	The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:a.Network round trip delayb.Network reset and restart indicationsc.Outages and CRC errorsd.Performance statistics	
NI-0450	CSMS	ECS shall have the capability to receive periodic summary information about faults that may have affected the quality of NOLAN services between ECS and its users.		SMC-4310	functional	CSMS	The SMC shall perform fault analysis including, at a minimum:a.Isolationb.Locationc.Identificationd.Characterization	
				ESN-0780	functional	CSMS	The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:a.Network round trip delayb.Network reset and restart indicationsc.Outages and CRC errorsd.Performance statistics	
				ESN-1000	functional	CSMS	The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical.	
NI-0460	CSMS	ECS shall have the capability to receive periodic information regarding NOLAN network performance and link utilization.		SMC-3380	functional	CSMS	The SMC shall evaluate overall system performance.	

				ESN-1070	functional	CSMS	The ESN shall provide the capability to perform the following functions, at a minimum:a.generate/collect network statisticsb.control collection/generation of network statisticsc.store system statistics and statistical historiesd.display the system statisticse.track end-to-end transaction performance	
NI-0470	CSMS	ECS shall have the capability to receive notifications of security breaches at NOLAN sites or within the NOLAN network that could potentially affect ECS sites.		EOSD2100	security	FOS/SDPS/CSMS	The ECS technical security policy planning shall be comprehensive and shall cover at least the following areas:a.Applicability of the C2 Level of Trustedness as defined by the NSAb.Applicability of the C2 Object Reuse capabilityc.Discretionary control and monitoring of user accessd.ECS communications, network access, control, and monitoringe.Computer system "virus" monitoring, detection, and remedyf.Data protection controlsg.Account/privilege management and user session tailoringh.Restart/recoveryi.Security audit trail generationj.Security analysis and reportingk.Risk analysis	
				EOSD2710	security	CSMS	ECS elements shall report all detected computer viruses and actions taken to the SMC.	
				ESN-1430	security	CSMS	The ESN shall provide the following security event functions: a.Event detection b.Event reporting c.Event logging	
				SMC-5340	security	CSMS	The SMC shall perform security risk analyses and compromise detection.	

				EOSD2510	security	FOS/SDPS/CSMS	ECS elements shall maintain an audit trail of:a.All accesses to the element security controlled datab.Users/processes/elements requesting access to element security controlled datac.Data access/manipulation operations performed on security controlled datad.Date and time of access to security controlled datae.Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processesf.Detected computer system viruses and wormsg.Actions taken to contain or destroy a virus	
				ESN-1380	security	CSMS	The ESN shall provide countermeasures for the following security threats related to data communications:a.modification of data (i.e., manipulation) while in transit over the networkb.disclosure of authentication informationc.degradation in network or processing resource performance through denial of service attackd.Impersonation of authentication credentials or authorization privileges.	

NI-0480	CSMS	ECS shall have the capability to send to NOLAN notifications of security breaches at ECS facilities that could affect NOLAN and other EOSDIS sites.		EOSD2100	security	FOS/SDPS/CSMS	The ECS technical security policy planning shall be comprehensive and shall cover at least the following areas:a.Applicability of the C2 Level of Trustedness as defined by the NSAb.Applicability of the C2 Object Reuse capabilityc.Discretionary control and monitoring of user accessd.ECS communications, network access, control, and monitoringe.Computer system "virus" monitoring, detection, and remedyf.Data protection controlsg.Account/privilege management and user session tailoringh.Restart/recoveryi.Security audit trail generationj.Security analysis and reportingk.Risk analysis	
				EOSD2510	security	FOS/SDPS/CSMS	ECS elements shall maintain an audit trail of:a.All accesses to the element security controlled datab.Users/processes/elements requesting access to element security controlled datac.Data access/manipulation operations performed on security controlled datad.Date and time of access to security controlled datae.Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processesf.Detected computer system viruses and wormsg.Actions taken to contain or destroy a virus	
				ESN-1430	security	CSMS	The ESN shall provide the following security event functions: a.Event detection b.Event reporting c.Event logging	

				ESN-1380	security	CSMS	The ESN shall provide countermeasures for the following security threats related to data communications:a.modification of data (i.e., manipulation) while in transit over the networkb.disclosure of authentication informationc.degradation in network or processing resource performance through denial of service attackd.Impersonation of authentication credentials or authorization privileges.	
				SMC-5340	security	CSMS	The SMC shall perform security risk analyses and compromise detection.	
				EOSD2710	security	CSMS	ECS elements shall report all detected computer viruses and actions taken to the SMC.	
NI-1000	FOS | SDPS | CSMS	ECS functions shall have an operational availability (computed as defined in the Functional and Performance Requirements Specification for the ECS) of 0.96 at a minimum and a Mean Down Time (MDT) of four (4) hours or less, unless otherwise specified.		EOSD3700	RMA	FOS/SDPS/CSMS	ECS functions shall have an operational availability of 0.96 at a minimum (.998 design goal) and an MDT of four (4) hours or less (1.5 hour design goal), unless otherwise specified.	
NI-1010	FOS	The ECS FOS shall have an operational availability of 0.9998 at a minimum and a MDT of one (1) minute or less for critical real time functions that support:a.Launchb.Early orbit checkoutc.Disposald.Orbit adjustmente.Anomaly investigationf.Recovery from safe modeg.Routine real time commanding and associated monitoring for spacecraft and instrument health and safety		EOSD3800	RMA	FOS	The FOS shall have an operational availability of 0.9998 at a minimum (.99997 design goal) and an MDT of one (1) minute or less (0.5 minute design goal) for critical real-time functions that support:a.Launchb.Early orbit checkoutc.Disposald.Orbit adjustmente.Anomaly investigationf.Recovery from safe modeg.Routine real-time commanding and associated monitoring for spacecraft and instrument health and safety	

NI-1030	FOS	The ECS FOS shall have an operational availability of 0.99925 at a minimum and a MDT of five (5) minutes or less for non-critical real time functions.		EOSD3810	RMA	FOS	The FOS shall have an operational availability of 0.99925 at a minimum (.99997 design goal) and an MDT of five (5) minutes or less (0.5 minute design goal) for non-critical real-time functions.	
NI-1060	FOS | CSMS	The ECS shall contribute a loop delay of not greater than 2.5 seconds of the total system delay of five (5) seconds for emergency real time commands, not including the time needed for command execution. The loop delay is measured from the originator to the spacecraft/instrument and back and only applies when a TDRSS link is available for contact to the spacecraft.		EOSD1000	performance	FOS/SDPS/CSMS	ECS elements shall contribute a loop delay of not greater than 2.5 seconds of the total system delay of five (5) seconds for emergency real-time commands, not including the time needed for command execution. The loop delay is measured from the originator to the spacecraft/instrument and back and only applies when a Tracking and Data Relay Satellite System (TDRSS) link is available for contact to the spacecraft.	