M1 Paper Level 4 Requirement Changes

Attachment 1: Add new L4s:

LEVEL_4 id	object_key	CCR	rel	req_type	req_status	verification_status	verification_method	text	clarific.
F-CMS-10130	new		B	functional	approved	unverified	demo	The FOS shall fill the trailing words of an AM1 ATC command with zeroes.	
F-CMS-11170	new		B	functional	approved	unverified	demo	The FOS shall use and maintain a standard set of AM1 load initiate mnemonics.	
F-CMS-11180	new		B	functional	approved	unverified	demo	The FOS shall load each element of a spacecraft or instrument table load in its entirety.	For example, if only 3 bits of a 16-bit word is used, the leading bits are zero-filled.
F-CMS-10725	new		B	functional	approved	unverified	demo	The FOS shall fill unused trailing words of an AM1 RTS with zeroes.	Each AM1 RTS consists of 16 slots; unused slots are filled with zeroes.
F-CMS-10600	new		B	functional	approved	unverified	demo	The FOS shall allow a fixed minimum time spacing between a AM1 spacecraft or instrument load initiate command and the load data.	This spacing is only applicable for the original load transmission. The time spacing is not preserved for automated COP-1 retransmissions.
F-TLM-13000	new		B	functional	approved	unverified	demo	The FOS shall be capable of accepting and storing the downlinked AM1 spacecraft activity	Activity log dumps are table ID 18.

LEVEL_4 id	object_key	CCR	rel	req_type	req_status	verification_status	verification_method	text	clarific.
								log table.	
F-CMD-01150	new		B	functional	approved	unverified	demo	The FOS shall use and maintain a unique set of AM1 command mnemonics for aborting dumps.	The same command mnemonic is not used for dump initiate and dump abort).

Attachment 2: Modify existing L4s:

LEVEL_4 id	object_key	CCR	rel	req_type	req_status	verification_status	verification_method	text	clarific.
F-CMS-10250	5037		A	functional	approved	unverified	test	The EOC shall append a load initiate command to the ATC load.	The load initiate command includes the CRC, which is calculated by EOC software. The AM1 ATC table ID is 11.
F-CMS-10710	2201		A	functional	approved	unverified	test	The EOC shall generate SCC relative time commands which are consistent with the format specified in ICD-106.	~~The April, 1994 ICD-106 specifies that each absolute time command is of a fixed size of 22 octets, consisting of a time tag (2 octets), and a command (20 octets).~~ Each RTS sequence consists of a total of 177 words. An AM1 RTS contains 16 slots. Each slot contains an 11-word command. Refer to

LEVEL_4 id	object_key	CCR	rel	req_type	req_status	verification_status	verification_method	text	clarific.
									ICD-106 for placement of Inhibit ID and command count.
F-CMS-10740	5038		A	functional	approved	unverified	test	The EOC shall append a load initiate command to the RTS load.	The load initiate command includes the CRC, which is calculated by EOC software. The RTS table ID is 12. The CRC is the 16-bit CCSDS CRC.
F-CMS-11190	2207		A	functional	approved	unverified	test	The EOC shall append a load initiate command to the table load.	The load initiate includes the applicable CRC or checksum. GNC table loads use 16-bit checksum. All other spacecraft table loads use the 16-bit CCSDS CRC.
F-CMS-11320	5041		A	functional	approved	unverified	analysis	The EOC shall provide the capability to calculate the CRC for a ~~CERES,~~ MISR, MODIS, or MOPITT instrument microprocessor load.	MODIS & MOPITT loads use the 16-bit CCITT CRC. MISR loads use the 16-bit CCSDS CRC.
F-CMS-11330	2210		A	functional	approved	unverified	test	The EOC shall provide the capability to append the load initiate command, including the load descriptor,	MODIS & MOPITT loads use the 16-bit CCITT CRC. MISR loads use the 16-bit CCSDS CRC.

LEVEL_4 id	object _key	CCR	rel	req_type	req_status	verification_status	verification_ method	text	clarific.
								start address, word count, and CRC to a CERES, MISR, MODIS, or MOPITT instrument microprocessor load.	CERES CRCs are provided as part of the CERES load data; FOS does not calculate the CERES CRC.
F-CMS-11420	5039		B	functional	approved	unverified	test	The EOC shall append a load initiate command to the flight software load.	The load initiate command includes the CRC, which is calculated by EOC software. GNC flight software loads use a 16-bit checksum in place of the CRC. All other AM1 flight software loads use the 16-bit CCSDS CRC.

Attachment 3: Add RBR to L4 links:

RBR_id	LEVEL_4 id
EOC-3050#B	F-CMS-10130
EOC-3050#B	F-CMS-11170
EOC-3050#B	F-CMS-11180
EOC-3050#B	F-CMS-10725
EOC-4020#B	F-CMS-10600
EOC-5010#B	F-TLM-13000
EOC-4015#B	F-CMD-01150

Attachment 4: Add Component to L4 Links:

RBR_id	LEVEL_4 id
F_System	F-CMS-10130
F_System	F-CMS-11170
F_System	F-CMS-11180
F_System	F-CMS-10725
F_System	F-CMS-10600
F_System	F-TLM-13000
F_System	F-CMD-01150

Component is “F_System”