Requiremnt Number	Requirement Description	DLP Req'd	DLP Exists	Matching DLPs	Action Recommended
TAC 201	Ground configuration for telemetry reception: (a) Accept requests to control TAC configuration and operation; (b) Allow ground system reconfiguration required for telemetry formats and rate	Y	P	4.2.1.1.6	The Monitor group has written DLPs for FEP/TAC configuration with regard to telemetry reception. I don't think analogous DLPs for commanding exist. Also, although we have assumed the existence of a general resource manager, I don't think DLPs have been written for it.
TAC 202	Utilize catalogs to specify the processing to be performed on different data streams. These catalogs shall allow for temporary parameter modification.	Y	Y	4.2.1.1.6	The Monitor group has written DLPs that indicate that the FEP must be able to automatically recognize and switch telemetry format processing. Whether this is done with "catalogs" or some other mechanism is not terribly important.
TAC 203	Generate catalogs based on data base information.	Y	N		We have not specified anything about how PDB information will be incorporated into the operational system.
TAC 204	Nascom/TDRS communications: (a) 3 Input lines: 1.544 Mb/s, 56 Mb/s, 56 Mb/s; (b) Allow line outage recorder playback from NASCOM; (c) Accept simulator input; (d) 1 Line to HST: 9.6 kb/s, 4800 NASCOM blocks; (e) 1 line to OSS: 1.544 Mb/s	A	U		The Monitor team has specified some data volume requirements. Nothing has been specified regarding line outage playback. Simulation support has been specified. Command volume requirements not specified. Transmission to OSS not specified. Curt notes/suggests: "What about IP CMD/TLM, not 4800 block?"
TAC 205	Communications (in & out) through GSTDN(a) Two input lines: for real-time and recorder dump support(b) One output line for commanding.	A	U		Nothing has been specified vis-a-vis GSTDN.Curt notes: third input line required for echoes. Emphasizes that GSTDN support is required.
TAC 206	Communications (in & out) through DSN (similar to GSTDN support)	A	U		Nothing has been specified vis-a-vis DSN. Curt emphasizes that DSN support is required.
TAC 207	Receive (HST telemetry) data from JSC.	Y	N		Monitor has a DLP to cover receipt of shuttle data (e.g., FSS, ORUC), but not HST data transmitted through the shuttle.Curt notes: two input lines required - TLM, CARS (what does CARS mean?)Curt asks "What about JSC commanding? various modes, 1-step / 2-step"
TAC 301	Display HST telemetry quality statistics.	Y	Y	4.2.1.1.4	
TAC 302	Accumulate HST telemetry quality statistic.	Y	Y	4.2.1.1.4	
TAC 401	Data processing requirements for (a) test data, (b) simulator data, (c) real-time HST data, and (d) line outage playback data. Assumes NASCOM interface.	Y	P	4.3.1.1.1 - 4.3.1.4.5	Items a, b, & c have been covered by the Monitor group. Item d requires attention.
TAC 501	Transmit spacecraft command data via one simplex 9.6 kb/s communications line, externally clocked. Assumes NASCOM interface.	Y	N		This is logically an FEP command function. The only FEP functionality so far written is that for telemetry reception written by the Monitor group; no FEP command function DLPs have been written.
TAC 502	Transmit fault isolation messages (as needed) - to NCC or HST simulator. Response is (currently) via voice communications.	Y	N		Fault isolation DLPs have not been written.
TAC 503	Interface test message to HST simulator. Response is (currently) via voice communications.	Y	N		Interface test DLPs have not been written, although test & simulation DLPs have.
TAC 601	Receive and process HST science real-time data stream and forward to science data to the OSS. Channels: 4 kb/s on MA, 1.024 Mb/s on SSA.	N	N		No longer a STOCC requirement. (Science data sent to STScI by PACOR.)
TAC 602	Transmit real-time or recorder dump science data to OSS over a simplex 1.544 Mb/s communications circuit.	N	N		No longer a STOCC requirement. (Science data sent to STScI by PACOR.)BUT why then is this requirement being updated in CCR 1941 (5/25/95)?

TAC 603	Provide periodic "keep alive" message to OSS when OSS science data output is enabled but no data are being processed.	N	N		No longer a STOCC requirement. (Science data sent to STScI by PACOR.)
TAC 604	Provide OSS (OPUS) communications link test message.	Y	Y	4.2.4.2.8	
TAC 605	Search for, recognize, extract, and forward the following data sets from the science data link for processing by the Dump Processing Subsystem: NSSC-1 Status Buffer, NSSC-1 Dump, FOC Microprocessor Dump, FOS Microprocessor Dump, & Coprocessor Dump.	N	N		No longer a STOCC requirement. (Science data sent to STScI by PACOR.)
TAC 701	Automatically record incoming real-time engineering data if LAN communications or archiving has become disabled. Minimum record capacity: 30 minutes of 30 kb/s data.	Y	N		DLPs exist for an expert system to recognize and respond to ground system anomalies; no DLPs exist for temporarily storing interrupted real-time telemetry data until the associated problem has been repaired. Such DLPs will not be needed if (a) essentially all data have been stored on the on-board recorder, or (b) we decide that we can live with the data loss. Ed G. suggests this is a design issue.
TAC 702	Stage up to two full tape recorder dumps (ETR and STR) simultaneously. Reverse tape data for use by downstream systems.	Y	P	4.2.1.1.1-7	ETR/ESSR processing DLPs covered by Monitor system; STR/SSSR related DLPs not written. Science data processing is currently done by PACOR. (Ed G. "Isn't this complete for CCS?")
TAC 703	Accept and process ETR data. Apply minor frame quality indicators.	Y	Y	4.2.1.1.1-7	
TAC 704	Accept and process STR data.	N	U		No longer a STOCC requirement. (Science data sent to STScI by PACOR.)
TAC 705	Accept and process ETR data. Handle transitions between 4 & 32 kb/s data.	Y	Y	4.2.1.1.1-7	
TAC 706	Replay real-time history or ETR data.	Y	N		No DLPs exist for a replay of data.
TAC 707	Replay STR data to OSS. (See spec for detail.)	N	U		No longer a STOCC requirement. (Science data sent to STScI by PACOR.)BUT why then is this requirement being updated in CCR 1941 (5/25/95)?
XMT 101	Provide node for telemetry distribution.	N	U		Resource manager.
XMT 102	Accept any of the valid telemetry formats and rates. Distribute data to (PRS) systems that require them for subsequent processing.	Y	Y	4.2.1.1.1 - 4.2.1.4.5	
XMT 103	Provide data to the off-line system (PASS)	Y	Y	4.2.1.4.1-5	Covered by Monitor system (in so far as PASS post-processing [e.g. AD&SC] becomes part of CCS). Once data are archived, they are generally available.
XMT 104	Provide data to ESS.	Y	Y	4.2.1.4.1-5	Covered by Monitor system (in so far as ESS becomes part of CCS).
TLM 101	Allocate Telemetry processing node.	N	U		Resource Manager.
TLM 102	Detect and report format changes. Upon receiving confirmation of format change, switch to proper decommutation format.	Y	Y	4.2.1.1.6	Covered by Monitor system, with assumption that it will be automated
TLM 103	Detect missing minor frames. Flag questionable quality data.	Y	P	4.2.1.1.4	This is at least partially covered by Monitor DLPs. It is not clear how detailed the DLPs should be in this area. We have found with the PASS system that one has to be very careful with minor frame validation to properly identify whether we are dealing with data gaps or vehicle time / minor frame counter corruption.
TLM 104	Decommutate engineering data.	Y	Y	4.2.1.1.9	

TLM 105	Perform context-dependent decommutation.	Y	Y	4.2.1.1.9	(implicit in DLP 4.2.1.1.9)
TLM 106	Perform special decommutation for item using multiple and non-contiguous bits and words and for the application of special raw data construction logic.	Y	N	4.2.1.1.9	This may be implicitly covered by Monitor system DLPs, although it appears to be at a level of detail deeper than are discussions went.
TLM 107	Store last received and decommutated values for use by other elements of system.	N	U		Monitor DLPs exist for storing all data; but no special thought is given to holding the most recent value for each item in a separate buffer. (This may be just a language problem; the Monitor system current state table will hold the most recent value of all monitored mnemonics during static periods - e.g., ZOEs.)
TLM 108	Mark telemetry and algorithm results as static during periods of data dropout.	Y	P	4.2.2.3.5	As written, this requirement seems to expect that real-time telemetry items are being displayed for human to view. This is not expected to be standard operations. However, for internal monitor purposes, DLPs exist for a heartbeat message to be sent to the expert system inference engine so that it will know when telemetry data are not being received. (Ed G. "Do we need this capability for contingencies?")
TLM 109	Perform engineering unit (EU) conversion.	Y	Y	4.2.1.1.10	
TLM 110	Perform context dependent EU conversion.	Y	Y	4.2.1.1.10	
TLM 111	Perform limit checking of telemetry and derived parameters.	Y	Y	4.2.2.1.1 - 4.2.2.3.6 & 4.1.1.2.3 - 4.1.1.5.5	
TLM 112	Perform limit checking. [Seems like part of TLM 111]	Y	Y	4.2.2.1.1-6 & 4.1.1.2.3-5	
TLM 113	Allow limit adjustment during operations without PDB change.	Y	N		Monitor EBP written (Develop & Test New Procedures); no DLP.
TLM 114	Allow bi-level dependent limit set selection.	Y	N		Either implicitly covered by DLPs associated with TLM 111, or more detail required in the DLPs. Curt suggests that explicit detail should be included.
TLM 115	Report limit violations.	Y	Y	4.1.3.1.1-13 & 4.2.5.1.1-15	
TLM 116	For specified mnemonics, apply limit (delta) checking to change between telemetry occurrences.	Y	N		We did not consider delta checking; is it still desired? Curt notes that this item is closely related to TLM 117. If delta checking is done to evaluate the noise quality of data, then perhaps this is implicitly covered.
TLM 117	Report occurrences of noisy data.	Y	Y	4.1.1.1.4	
TLM 118	Apply special equation processing to selected telemetry items.	Y	N		Not covered; should be a Monitor system DLP.
TLM 119a-d	Apply special "derived parameter" processing: (a) deleted, (b) sun position in s/c coordinates, (c) sun position in SA coordinates, (d) temperature differential maximums for light shield assembly & forward shell	Y	N		These would be Monitor functions. DLPs are not at this level of detail.Curt suggests that some appropriate DLP (perhaps in the Analysis and Trending area) be augmented to include these items. The issue of whether this processing should be done as part of monitoring preparation or analysis & trending depends upon whether we want immediate feed-back on deviations between the expected and true states.

TLM 119e-h	(e) HST attitude from OBC PCS, (f) FGS star selector positions - true vs. expected (report miscompare), (g) allow nonprocessing of inactive ORU/IRU items, (h) monitor CDI - report cmd problems.	Y	N		These would be Monitor functions. DLPs are not at this level of detail.Curt suggests that some appropriate DLP (perhaps in the Analysis and Trending area) be augmented to include these items. The issue of whether this processing should be done as part of monitoring preparation or analysis & trending depends upon whether we want immediate feed-back on deviations between the expected and true states.