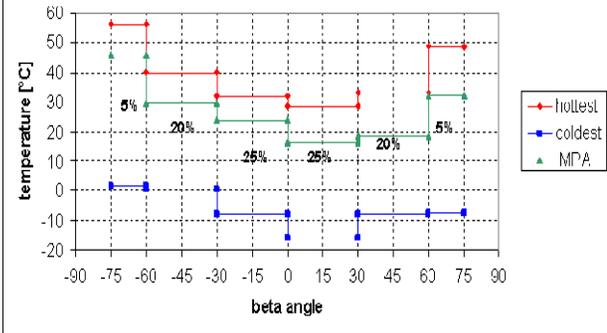


ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
1.3A	Heater	To review AMS-02 heater document	May 29, 2007 - The actionee has been rolled from PN to T.Urban.	TU	JS	June 15, 2007	O
1.6	Heater	To define LUSSII heater wiring and terminal block	May 09, 2007 - FC has provided the current design. Discussion is going on to define all the terminal blocks. 18/09/2006 - FC to provide detailed views on LUSSII cable paths including terminal blocks and circular connectors	FC	LAPP	May 16, 2007	O
2.6	TV Chamber	SERMS to investigate UGPS outgassing	May 29, 2007 - Monitor carefully UGPD FM outgassing behaviour during TV tests (Dec 2007) 04/12/2006 - on-hold at SERMS	SB	SERMS	December 30, 2007	O
2.7	TV Chamber	SERMS to provide gradient between different trays of the chamber	May 09, 2007 - Serena B. to send measurements to CV 04/12/2006 - on-hold at SERMS	SB	SERMS	May 30, 2007	O
2.8	TV Chamber	NSPO to confirm the maximum gradient of 1°C all over the coldplate during electronic testing	May 09, 2007 - NSPO (SC) has been asked to provide data 04/12/2006 - Status requested at NSPO	JRT	NSPO	May 30, 2007	O
2.9	TV Chamber	SERMS to confirm that 1°C maximum gradient all over the coldplate is respected	May 09, 2007 - Serena B. to send measurements to CV 04/12/2006 - on-hold at SERMS	SB	SERMS	May 30, 2007	O
3.8	CAB	To provide CAB TCS keep out zone for cable routing	May 09, 2007 - Info sent to F. Cadoux, who should provide a feedback 19/06/06 - Potential interferences still to be checked. Open 09/05/06 – Preliminary CAB TCS keep out zone : 410 mm vertical (AMS z axis), 375 mm horizontal (AMS y axis, RAM-WAKE Direction) and 60 mm perpendicular to the baseplate of the CAB (AMS x direction), centered on the CAB in y and as high as possible toward the trunnion bridge in z. Potential interferences need to be checked. 05/04/2006 - M.Capell has asked to define the CAB TCS keep out zone for the cable routing. JB(TWG) volunteered to provide that info. See also CAB.5	JB	MIT	April 25, 2006	O
3.11	CAB	Comment on CAB test report		CV/IC	CGS	June 15, 2007	O

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
4.1B	TOF	To provide Min, Max, and (MPA) PMT temperatures at each beta.	<p>25/08/06 – On hold till new TOF thermal results coming from the new system thermal analysis will be distributed. This is planned by mid of November 2006.</p> <p>18/04/2006 INFN-BO to identify how often (if it is needed !!) the TOF may be turned off in order to optimize science data considering maximum operating temperature recommended by the supplier +50°C. To be discussed at TIM April 06</p> <p>14/03/2006 The following graph has been largely distributed:</p>  <p>Basing on this graph (D-CDR dissipation is used) and on the results of the aging investigation , INFN BO has to identify how often the TOF may be turned off in order to optimize science data.</p>	IC	CGS	April 25, 2007	O
5.7A	Star Tracker	To provide Lens test report	<p>May 09,2007 - Check ICES 2007 paper is suitable for closing the action</p> <p>05/08/07 –The action has been rolled to TWG. To verify that the July TIM presentation conatins all the necessray info as per VCD request.</p>	CV/IC	TWG	July 15, 2007	O
5.10A	Star Tracker	To provide Star Tracker electronic test report	<p>May 09,2007 - Check ICES 2007 paper is suitable for closing the action</p> <p>05/08/07 –The action has been rolled to TWG. To verify that the July TIM presentation conatins all the necessray info as per VCD request.</p>	CV/IC	TWG	July 15, 2007	O
5.12	Star Tracker	To provide Star Tracker test report	<p>May 09,2007 - Check ICES 2007 paper is suitable for closing the action</p> <p>05/08/07 –The action has been rolled to TWG. To verify that the July TIM presentation conatins all the necessray info as per VCD request.</p>	CV/IC	TWG	July 15, 2007	O

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
6.12	MLI	To re-issue MLI description document	May 09, 2007 - Early MLI description by May 15th (DONE by ppt), Late MLI for August 2007 29/08/06 - Open – The new MLI document is foreseen by of Mid of February according to the July TIM reschedule of the activities. 19/06/06 – Document planned by TIM July 2006 09/05/06 – The issue 2 of the MLI document will be issued by 30th of May	CV	TWG	August 30, 2007	O
6.13	MLI	To evaluate the mass budget of the new TRD MLI.	May 9,2007 - Measure it once built 21/09/2006 - As for the mass budget, the center areas of the top and bottom of the TRD blanket will have a layer of reinforced aluminized Kapton instead of the aluminized Beta cloth. 12/09/2006 - The former TRD MLI outer layers (kapton light blocker + betacloth) are going to be replaced by a back Aluminized beta cloth only. No change for the inner layers. The weight of this new betacloth has to be provided in order to update mass-budget	JC	NASA	July 20, 2007	O
6.14	MLI	To estimate TRD MLI effective area to update mass budget.	May 09, 2007 - see above 21/09/2006 - NASA is in the process of changing designers for the TRD blankets. 31/08/2006 - The surface area for the TRD blanket design is 6.89 square meters (10675 square inches). This does not take into account any over laps. It is the area seen from outside. Not useful for the mass budget.	JC	NASA	July 20, 2007	O
6.17	MLI	To evaluate if the potential ESD (Electro Static Discharge) on the non conductive BC layer may be a problem for the TRD detector	June 4, 2007 - Email received May 20, 2007 from S. Koontz/NASA verifies no ESD issue for aluminized Beta Cloth. CSC will provide email. Actionee changed to CSC. May 09,2007 - CC to get an update on this with ESD people 29/11/2006 - JC has delivered a Tailoring/Interpretation Agreemen (TIA) concerning the grounding of the MLI blanket BC aluminized layer. It seems that the TIA is addressing a different issue wrt. the KL one. CV has provided a data-sheet with the characteristics of a BC with carbon fiber yarn net on the surface to cope with ESD issue. 14/11/2006 - KL has brought up an issue for the non-conductive outer layer as BC. The Electro Static discharge may cause a damage to the electronic. JC to investigate that issue.	CSC	ESCG	December 30, 2006	O

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
6.18	MLI	To re issue MLI guidelines document incorporating recommendation of removing dacron net between Beta cloth and Kapton layer. Need for aluminized grounding is stated (in words, not written) NOT necessary according to NASA 'Electrostatic and grounding ISS issues panel'. It would be preferred to have a written statement.	June 4, 2007 - Updated MLI Req Doc is in work. Actionee changed to J. Cornwell May 09, 2007 - CC to get the written approval	JC	NASA	May 23, 2007	O
7.6	Model	To compare temperatures obtained with main radiator detailed and reduced model (when on-orbit)	May 09,2007 - To be worked out in July after main radiator thermal analysis report being delivered 25/08/06 – Open . Status is needed (to report at the next teleconf) 13/06/06 – Crates model updated and delivered to SDU (excel table format). Still pending the XPDs models. SDU to implement the excel data into a SINDA code. 19/05/06 – Definition of the main radiators models to be compared. Some differences between the system model and the reduced one are identified. Crates and XPDs models need to be updated, activity charged to CGS.	CDM	CGS	July 15, 2007	O
7.7	Model	To generate non-nominal IF to TTCS for start-up simulation	May 09, 2007 - Elisa laudi to check if data received in Oct 2006 25/08/06 – Start-up IF data based on the coldest cases for the radiators have been delivered. Next deliver will include coldest cases based on the TTCB interfaces.	IC	TWG	September 1, 2006	O
8.9	Cryocoolers	To update the 3D cryo cooler model and confirm the heater connector selection. The heater design foresees an MS2750810F35PA (13x 22D) on each cooler.	May 09, 2007 - Connector for heaters has been purchased already, 3D still missing 04/12/06 - Email to kimberly to get the status 05/09/06 – GSFC will accommodate two connector brackets on the cooler bracket without modification to the Torlon housing (where GSFC mounts own connectors), which would handle the PT1000 and the LHP heaters (assuming A & B wires are in the same connector). The proposed Heater circular connector is MS2750810F35PA (13x 22D)	KSB	GSFC	October 25, 2006	O
8.10	Cryocoolers	To cope with the potential condensation issue during non-operative phases of the cryo cooler (i.e. on-ground operations, STS cargo-bay)	May 09,2007 - Status asked 25/10/2006 - The concern , as explained at TIM by GSFC people, is the water vapour condensation on DALLAS measurement. KSB to ask GSFC people on that issue	KSB	GSFC	September 30, 2006	O

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
9.3	LSS	<p>To review AMS-02 thermal vacuum test already available documentation and provide comments.</p> <p>To think about</p> <ul style="list-style-type: none"> - pros and cons of solar beam approach vs. IR lamps. - List of things we can validate - AMS tilted position - AMS power profile 	<p>May 09,2007 - Test spec requested by ESA for July 2007 TIM</p> <p>25/08/06 <u>TV-TB approach</u>: TWG has recommended to not use the solar beam for a thermal balance test. <u>AMS relative position</u> : To get most of the heat pipe radiators working in the TVT, AMS will be mounted HORIZONTAL. <u>List of things to be validated</u> : temporarily on hold</p> <p>Draft version of the brainstorming has been sent out (see on TWG ftp site tvtestredmarked_forremarks2.doc)</p> <p>C.Tutt remark : <i>In the IR vs. solar beam discussion, one trade-off that hasn't been mentioned is the test fixture design. Putting AMS-02 in the beam requires either an extension to the EMI fixture or a second fixture entirely. Using IR means that the same fixture can likely be used for both the EMI and TV tests. Developing one fixture with a single configuration would save both the cost to develop the fixture and any schedule at ESTEC associated with reconfiguring the fixture.</i></p> <p>The above remark will be incorporated in the next issue of the note as soon as the comments from other TWG members come.</p>	CV	TWG	July 15, 2007	O
10.9	E-RHV	To provide HV Bricks Test Report	<p>04/04/06 Remarks by E.Cortina and new test report issued. See xHVRReport_Rev2.pdf on the TWG ftp site</p> <p>16/03/06 E.Cortina has posted the HV Thermal test report on the CIEMAT web-site. See xHVRReport_Rev1.pdf on the TWG ftp site</p>	EC	CIEMAT	March 15, 2006	O
10.12	E-RHV	To determine minimum temperature reached by E/RHV bricks after Power Outage	<p>May 09, 2007 - coldest case is available. Transient to be run</p> <p>25/08/06 – 15k survey has been completed. JS to sort the cases.</p> <p>19/06/06 – On hold till HV coldest cases are identified by the new survey</p>	IC	TWG	July 15, 2007	O
10.13	E-RHV	After HV bricks qualification campaign make a cold Non Op limit temperature test	<p>To incorporate that into the HV test procedure.</p> <p>From TV test procedure rev2 : “Minimum non-operating has to be extended experimentally for contingency in case of power outage. As this test can be destructive, a new test should be foreseen in the future to find out this value. As no design action should be taken in view of the result obtained for the extended minimum non-operating temperature, and the test can lead to a DUT failure this measurement will be scheduled in the future, and the procedure described in a dedicated document.</p> <p>To provide future schedule and dedicated procedure.</p>	EC	CIEMAT	TBD	O

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status																					
11.2	General	To verify w/ ISS folks the specular requirement about silver teflon (IF ANY)	<p>June 4, 2007 - CSC - We will violate requirements in ISS-57003 for surfaces with view to adjacent site. A waiver will be processed.</p> <p>TEMPORARILY ON-HOLD</p> <p>C.Clark : the ISS restriction concerning silver-teflon (per 57003) only affects surface with a view to the adjacent attached payload site.</p> <p>3.4.1.1.6 THERMAL EXCHANGE BETWEEN PAYLOADS</p> <p>A. [...]</p> <p>B. Attached Payload surfaces with a view to other Attached Payloads shall have a specularity of 10% or less.</p> <p>4.3.4.1.1.6 THERMAL EXCHANGE BETWEEN PAYLOADS</p> <p>A [...]</p> <p>B. Verification shall be by analysis or test. Verification shall be considered successful when analysis or test of surface properties shows that Attached Payload surfaces with a view to other Attached Payloads have a specularity of 10% or less or when an integrated analysis determines that specular surfaces of the Attached Payload do not adversely affect the operation of other Attached Payloads.</p> <p>All specular surfaces do need to be identified to ISS. There are no safety hazards associated with silver-teflon. We have already talked to ISS (see Silver teflon on AMS-02.ppt) and got preliminary "but in". No one could think of any real problem. T</p>	JC	NASA	January 15, 2007	O																					
4	General	To provide TOF people with SHV test specification	<p>May 9,2007- MM to check with A. Basili if all info are available .</p> <p>Test planned for Sept 2007</p> <p>25/09/06 - The test level proposed by D.Casadei (INFN-BO) are :</p> <table border="0" data-bbox="764 844 1409 1039"> <tr> <td>Qualification test</td> <td>Acceptance test</td> <td></td> </tr> <tr> <td>(QM/FS)</td> <td>(FM)</td> <td></td> </tr> <tr> <td colspan="3">-----</td> </tr> <tr> <td>-40 C</td> <td>-35 C</td> <td>Non operative</td> </tr> <tr> <td>-25 C</td> <td>-20 C</td> <td>Operative</td> </tr> <tr> <td>+55 C</td> <td>+50 C</td> <td>Operative</td> </tr> <tr> <td>+65 C</td> <td>+60 C</td> <td>Non operative</td> </tr> </table>	Qualification test	Acceptance test		(QM/FS)	(FM)		-----			-40 C	-35 C	Non operative	-25 C	-20 C	Operative	+55 C	+50 C	Operative	+65 C	+60 C	Non operative	MM	CGS	September 1, 2007	O
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11.5	General	To re-evaluate the thermal optical properties on the top of the PDS as there are no longer hetaers located there (breakdown of MLI vs. white paint). QM and FM different ?	<p>March 26, 2007 - Work has restarted - ECD on this question 4/15</p> <p>February 5, 2007 - ASI budget approved; some movement on contract. Dates rolled to 3/5/07</p> <p>August 28, 2006 - Contract still in work. Work-around by using EM for initial testing. Roll date to 10/5</p> <p>July 07, 2006 - Investigate contract status at July TIM</p> <p>May 08, 2006 - Contract to be in place by June ; roll date to 7th January 2006</p> <p>April 10, 2006 - On-hold pending resoution of ETH/CGS contract</p> <p>August 02,2005 - Wait for thermal analysis of revised worst hot case</p>	MM	CGS	July 15, 2007	O																					

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
11.6	General	To update documement for maximum operating temperature of +51°C (Section 3.2, requirement ID PDS-ENV-3)	<p>February 5, 2007 - ASI budget approved ; some movement on contract. Dates rolled to 3/5/07</p> <p>August 28, 2006 - Contract still in work. Work-around by using EM for initial testing. Roll date to 10/05</p> <p>May 8, 2006 - Contract to be placed by June. Roll date to 7/1/06</p> <p>April 10, 2006 - On-hold pending resolution of ETH/CGS contract</p> <p>November 07, 2005 -All further PDS activities on hold until 6 Feb. 2006</p> <p>April 22, 2005 - CGS proposes release of updated document by 9/19</p> <p>August 02,2005 - MOT should be changed to match updated worst case hot temperature</p>	MM	CGS	July 15, 2007	O
12.2	Safety	<p>TRD Gas Box</p> <p>There are numerous heaters with only a single thermostatic control along what is a pressure system that could be charged with gas and isolated from the accumulator effect of the pressure vessel. These are "isolated segments." These segments charged and the experiencing heating can naturally elevate their pressure, potentially above the rated MDP for the section. If the heater has insufficient controls to keep the temperature within the range for the MDP (based on the combined two failures and worst case thermal environment) then that violates the safety requirements that we must comply with.</p> <p>This will apply for heaters directly on the segments and heaters that can by conduction heat those sections, like heaters on valves. Technically we should also be considering a valve that constantly fails "open" or "closed", heating a segment and raising the temperature and pressure of the gas/fluid in the lines.</p> <p>ACTION : Provide thermostatic control (and then schematics) or show (by analysis) that the pressure vessel are not safety critical</p>	<p>June 1, 2007 - Actionee changed to C. Clark. Will provide memo by June 29, 2007. 06/19/06 – NO status statement - There has been considerable work accomplished on this task, and should be formally documented so that it can be reviewed and documented here. This is an advancing issue, but not closed.</p> <p>L.Hill clarification : if a segment is established to be unable to exceed the MDP with a heater failed on and it filled with cold gas/liquid then isolated, then I need a report/memo that conveys that analysis. IF not, then I need a revised system description and associated schematics and drawings that will account for each location of heat application to an isolated segment and documentation of the two fault tolerant design.</p>	CSC	ESCG	June 29, 2007	O

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
12.3	Safety	<p>TRD Gas Box Thermal connection between the heater and tank temperature and the associated thermal control switch needs to be established.</p>	<p>June 1, 2007 - Actionee changed to C. Clark. Will provide memo by June 29, 2007. 06/19/06 – NO status Statement – This is an advancing issue and has not been formally documented as to closure as of this time.</p> <p>L.Hill clarification : "What is needed is to establish with supporting documentation that the location of the thermal control devices that are to prevent the tanks from achieving an excessively high temperature are actually capable of sensing the thermal condition of the tank and heaters in a timely and consistent manner. This has to include the justification of how the sensors are directly acting on the hazard and not "inferring" their information based on design assumptions of thermal connectivity through a composite overwrapped structure. This may require analysis and testing with a formal report provided that justifies the design's ability to actually achieve the desired function and fault tolerance."</p>	CSC	JE	June 29, 2007	O
12.4	Safety	<p>TRD Gas Box Pressure tables need to be checked/updated to assure that they reflect the worst case temperature that is used to establish the MDP and whether this is an environmental only or a heater/environmental effect</p>	<p>June 1, 2007 - Closed per L. Hill. Updated table provided in Phase II Data Package. 06/19/06 – Status - Pressure tables have been updated and will be monitored as to any needed changes such as providing the known TBDs. This one may be closed. Updates are anticipated with regards to SAF 2 closure.</p> <p>L.Hill clarification = "I need the tables updated and documentation describing the rationale or reason for the update or confirmation that the tables are currently completely accurate. Depending on the possible changes, additional information may be required. This is dependent on the causes of the alterations as to what additional information may be required."</p>	JB	MIT	February 15, 2006	C

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
12.5	Safety	<p>The "Ground" heaters are shown connected to the same box as the "Flight" heaters for the accumulator. It needs to be made very clear how the heaters will be inhibited from operating during flight and how that will be verified to be in place. If this is an inhibit structure then the appropriate fault tolerance (2FT) must be shown. If it is a physical separation of circuits, details to that should be provided with the over all description of the ground heaters and their operations and interface. On alternative is naturally to conduct a failed on heater analysis along with the other remaining failures and worst case environment.</p> <p>ACTION : update the AMSTR-NLR-TN-043</p>	<p>June 1, 2007 - Closed per L. Hill. Documentation provided for Phase II Data Package.</p> <p>06/19/06 –Status - Have received broad statements but no documentation on the use and isolation of the ground heaters.</p> <p>L.Hill remark : I need to have shown to me how the ground heaters are connected on the ground (to what and how) and how they are disconnected for flight. This should include descriptions of how the power is applied to the tanks including circuitry and the function, operation or design that precludes them from operating in flight. Currently that information has not been provided, only simple statements of intent (they are not connected.)</p>	JVE	NLR	February 15, 2006	C
12.6	Safety	<p>TTCS</p> <p>Need supporting information that I can use to indicate that the non-accumulator heaters if failed on (considering two failure cases and worst case environment) will not elevate the TTCS pressure above the MDP of the system.</p> <p>ACTION : update the AMSTR-NLR-TN-043</p>	<p>L.Hill remark : The supporting information is desired to be a formal report of the analysis (with testing if done) that will show that the heater runaway on everywhere else on the TTCS can not drive the pressure above MDP. This needs to be formal as it will be under scrutiny by the safety panel and we'll definitely have to have it formalized in our safety verification files. The action to update the document is complimentary to this, but it presents only the final results and not the process and full findings that the report I seek will do.</p>	JVE	NLR	March 1, 2006	O
12.9	Safety	<p>TTCS</p> <p>AMS-02-F05, Control 1.5 calls for a worst case temperature for the heat pipes of 50°C and an MDP of 20 bar. Previously this value for other systems has been updated to a new value and the MDP associated with this temperature had a higher MDP of 21 bar</p> <p>ACTION : To propose two worst failures for fault analysis and provide heaters and thermostats physical locations to understand</p>	<p>June 1, 2007 - Closed per L. Hill. Data provided in Phase II Data Package is sufficient.</p> <p>06/19/06 – NO status statement - Still waiting correction or confirmation.</p> <p>L.Hill remark : "Confirm if the information conveyed in the enclosed hazard control text (AMS-02-F05 1.5 Control) is accurate as to temperatures and pressure If they are correct I need confirmation that this is so. If they are incorrect I need a memo that indicates what the new pressure and temperatures are and then have the table information updated for these components. If there are heaters involved in this area of concern that can drive the temperature over 50 C then the action is valid as well and needs to be provided. This will need to include supporting documentation of heaters, schematics and analysis results."</p>	JVE	NLR	??	C

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
12.10	Safety	TTCS To review SAF.9 assumption and provide comments.	June 1, 2007 - Closed per L. Hill.	LH	ESCG	#VALUE!	C
12.11	Safety	TTCS Run the SAF.9 cases and update the AMSTR-NLR-TN-043	June 1, 2007 - L. Hill is looking for confirmation that analysis has been performed. AMSTR-NLR-TN-043 may need to be updated or new document provided.	JVE	NLR	March 31, 2006	O
12.11A	Safety	To update the MDP value	June 1, 2007 - Closed per L. Hill.	JVE	NLR	April 21, 2006	C
12.12	Safety	TTCS TTCS Accumulator Heat Pipe, need all relevant design information, including confirmation of the working fluid, the MDP (160 bar exterior pressure resistance and TBD internal relative to vacuum) Construction description, MDP, burst pressure and other data for the pressure table ACTION : To provide an "Accumulator design description " document	June 1, 2007 - Closed per L. Hill. 06/19/06 - Design of accumulator has been provided as it advances and safety is endeavoring to stay in tune with it. Ongoing and not closed. Accumulator heat pipe design description delivered to L.Hill Comments already forwarded to JvE(NLR) and Miao (CAST) L.Hill remark : This is an announcement of the fact I do not have any of this information to begin my safety work on this heat pipe (in the TTCS accumulator) and I need the basic information to understand this system. I also would point out that the results from TTCS 14 and TTCS 15 are directly relevant to the information that will go into the safety work.	JVE	NLR	February 15, 2006	C
12.13	Safety	TTCS As the TTCS Accumulator is not of the snowflake design used on other heat pipes on the AMS-02 we need to establish what the rationale is for preventing freezing of the fluid inside the heat pipe and why it is acceptable.	June 1, 2007 Need email or document justifying "no-freezing" L.Hill : A report or memo that addresses the text currently documented. However I have a concern as there is a stub of the heat pipe that is not necessarily thermally protected by the CO2 and if the system is off and cold the ammonia could cool faster and so forth. Something more formal than a single simplified statement is needed. J.Cornwell states that : "Ammonia will not freeze before CO2 will do" and analysis has shown that the CO2 will not freeze. C.Tutt remark : I think this is JS' action to get a formal memo from John Cornwell accepting the analysis rationale, so there is no deliverable to JS for this action.	JC	NASA	January 1, 2006	O
12.14	Safety	TTCS Need the heater information (Final, including thermostatic control and any acceptance analysis) on the TTCS accumulator/Accumulator heat pipe and the radiator heat pipes. ACTION : update the AMSTR-NLR-TN-043	TTCS heater design is under reconfiguration. As soon as it is complete the Heater specification document will be issued. L.Hill : While the update of the document may cover the top level information, a report should be available if analysis alone is used instead of fault tolerance to control MDP.	JVE	NLR	March 1, 2006	O

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
12.16	Safety	TCS (CAB LHP) Need description of the current CAB Loop Heat Pipe with associated graphics, and assurance that descriptions, including the fill quantity in the table (from AMS-02-F04). This needs to include the heat sources and the control of the MDP from them (heater, other temperature sources that could elevate the MDP)	06/19/06 - Still waiting documentation on the final CAB heat pipes and loop heat pipes L.Hill : "Safety data on this system can be out-of-date. The new data package will include the items described in the comment within the action. With the receipt of this information additional information may be required"	MM	CGS	January 15, 2007	O
12.18	Safety	TCS (CAB LHP) L.Hill (JS) to determine what is needed (list) for safety data package (i.e. fill quantity ,...)	June 1, 2007 - Closed per L. Hill. 06/19/06 - Still waiting documentation on the final CAB heat pipes and loop heat pipes As soon as the CAB LHP description is provided, LH will ask for what is missing	LH	JS	February 5, 2007	C
12.19	Safety	TCS (CAB LHP) To provide requested information	06/19/06 - Still waiting documentation on the final CAB heat pipes and loop heat pipes	MM	CGS	February 19, 2007	O
12.20	Safety	TCS (CAB LHP) To agree the scenario for fault analysis	June 1, 2007 - Closed per L. Hill. 06/19/06 - Still waiting documentation on the final CAB heat pipes and loop heat pipes	LH	ESCG	February 5, 2007	C
12.21	Safety	TCS (CAB LHP) To perform fault analysis	06/19/06 - No analysis/report available yet Report/Memo on results of analysis is needed.	MM	CGS	November 15, 2007	O
12.22	Safety	Need to make sure that the actual Cryocooler worst case temperature with heater failure is properly documented (currently 80°C non-operational, but there is no clear reason why this condition should be accepted as a restraining condition) This MDP is 20.3. Provide Worst case analysis for Cryocooler.	06/19/06 - No report/memo available yet at Leland. Memo to be provided Report/memo with worst case analysis assumption will be provided. Analysis results have been presented at TIM Feb 06.	MM	CGS	January 1, 2007	O
12.27	Safety	To provide a typical cross section of a Heat Pipe end	June 1, 2007 - Closed per L. Hill.	MM	CGS	January 15, 2007	C
12.28	Safety	To provide a typical cross section of a LHP fill location	June 1, 2007 - Closed per L. Hill.	MM	CGS	January 15, 2007	C
12.30	Safety	To provide typical cross section for TTCS fill system	June 1, 2007 - Closed per L. Hill. 06/19/06 Open – Waiting for design 04/18/06 - CO2 filling system description for TTCS EM has been issued by SYSU. The same system shall be used also for FM	JVE	NLR	July 25, 2006	C
12.30A	Safety	Comments expected	June 1, 2007 - Closed per L. Hill. 06/19/06 Open – design not received	LH	ESCG	August 15, 2006	C

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
13.5	ICD/VCD	To provide worst case thermal environments for the Warm He Supply and to document the temperature limits & assumptions in the Thermal ICD.	<p>June 4, 2007 - CSC - Worst case temperature extreme were provided to SM for the lower support ring in an email dated March 29, 2007. Temperatures range from -30 to +50 C.</p> <p>May 09, 2007 - 9/May/2007 location for warm Helium defined, no model yet. Temperature limits are enough. CV to ask Mike Capell</p> <p>HD#130 is an SCL's item to track and verify. It will need to be verified when components are selected & designed.</p> <p>HD#130 - WARM HELIUM GAS SUPPLY. The Warm Helium Gas Supply is designed to have two distinct pressure zones. The high pressure helium source has an MDP of 321 bar (4655.7 psi), established by the high pressure burst disk that is set at 320 bar (4641.2 psi). The 8.3 liter gas bottle, a composite wrapped bottle manufactured by Arde, is filled to have a pressure of 200 bar (2900.7 psi), and under worst case environmental thermal conditions the pressure could rise to 273 bar (3959.5 psi). The Warm Helium Gas Supply does not utilize any heaters. The MDP for the bottle has been set to the burst disk value although the highest pressure has been established by fill quantity and thermal</p>	CV	TWG	June 15, 2007	O
13.6	ICD/VCD	To provide technical assessment that on the basis of the worst case temperatures reported in July 7, 2006 ESCG-4470-06-TEAN-DOC-0086 the Xe and CO2 gas do not solidify	<p>May 09, 2007 - CV to check what is needed.</p> <p>HD#163 -TRD GAS SUPPLY. The TRD Gas Supply system (CO2 & Xenon) will not freeze under the worst case thermal conditions that the system will experience on-orbit. The high pressure TRD system is mounted on a common thermal plate to keep the entire high pressure side thermally uniform. The lowest temperature that has been assessed for the TRD system, using an indefinite period at the worst possible cold attitude with no other attitudes occurring (extremely conservative), to be -50°C (-43°C at 200 hours of exposure with asymptotic approach to approximately -50°C). Even with TRD heaters failed on for the tank only, driving the pressure up, and heaters off for the lines and components, the pressure-temperature curve for CO2 will not transition to solid phase. Xenon's physical properties make it more difficult to freeze than CO2. The low pressure side does not have a constant supply of carbon dioxide sufficient to fill a potentially frozen segment with CO2.</p>	JB	MIT	June 15, 2007	O

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
14.1	TTCS	AMS_02-TTCS_PDR-05 Initiated by: H. C. Lo/NASA TTCB Stress Report Figure 15 in mentioned in section 6, but there is no figure 15. NLR to correct typos in next release of document.	June 4, 2007 - TTCB Stress has been received by Jacobs and is under review 3/26/2007 - Marco to clarif with Johannes who is working TTCB stress issues now. 11/20/06 - Telecon scheduled for 11/21 to get latest status from Johannes. Requires TTCB stress reportupdate. 5/08/2006 - Date rolled to on-month after TTCS_PDR-03. 11/28/2005 - Based on new NIKHEF contract, due date changed to 2/6/2006. 9/9/2005 - Typo will be corrected in next release of document.	JvE	NLR	October 1, 2006	0
14.2	TTCS	AMS_02-TTCS_PDR-07 Initiated by: H. C. Lo/NASA NLR to provide strength and fracture analysis for TTCB	June 4, 2007 - TTCB Stress has been received by Jacobs and is under review 3/26/2007 - Marco to clarif with Johannes who is working TTCB stress issues now. 11/20/06 - Telecon scheduled for 11/21 to get latest status from Johannes. Requires TTCB stress reportupdate. 9/18/06 - B. Sommer and D. Rybicki to discuss closure with Dr. Lo. 5/15/2006 - D. Rybicki reviewed weld plan and is satisfied with process. Working to set up meeting withDr. Lo to close RID. 11/14/2005 - Weld procedure is available and has been sent to Dan Rybicki/ESCG for review. Johannes Van Es/NLR to supply all documentation to Bruce Sommer by 11/18 for additional review.	JvE	NLR	July 15, 2005	0
14.3	TTCS	AMS_02-TTCS_PDR-10 Initiated by: H. C. Lo/NASA NLR to provide remecy for any negative margins of safety presented at PDR for TTCB	June 4, 2007 - TTCB Stress has been received by Jacobs and is under review 3/26/2007 - Marco to clarif with Johannes who is working TTCB stress issues now. 9/18/06 - Xinmei has sent bolt calculations. NLR to finish analysis on bolts and components. Combined report to be issued by NLR. Date rolled to 12/25. 4/10/2006 - Johannes to pulse X. Qi 3/3/2006 - Xinmei Qi has completed updated analysis and will provde report to Bruce Sommer for review. 11/14/2005 - Updated analysis will be presented at TWG meeting in Milano. 9/9/2005 - Updated analysis will be presented at TTCS CDR.	Xinmei Qi	SYSU	December 25, 2006	0

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
14.4	TTCS	AMS_02-TTCS_PDR-11 Initiated by: H. C. Lo/NASA NLR to provide bolt details and analysis for TTCB	<p>June 4, 2007 - TTCB Stress has been received by Jacobs and is under review</p> <p>3/26/2007 - Marco to clarif with Johannes who is working TTCB stress issues now.</p> <p>9/18/06 - Xinmei has sent bolt calculations. NLR to finish analysis on bolts and components. Combined report to be issued by NLR. Date rolled to 12/25.</p> <p>5/15/2006 - Date changed to Sept. 1, 2006 after consultation with NLR/SYSU.</p> <p>3/3/2006 - Xinmei Qi has completed updated analysis and will provide report to Bruce Sommer for review.</p> <p>11/14/2005 - Updated analysis will be presented at TWG meeting in Milano.</p> <p>9/9/2005 - Details to be provided at TTCS CDR.</p>	Xinmei Qi	SYSU	December 25, 2006	0
14.5	TTCS	AMS_02-TTCS_PDR-12 Initiated by: H. C. Lo/NASA NLR to provide design details and finite element analysis of TTCB components	<p>June 4, 2007 - TTCB Stress has been received by Jacobs and is under review</p> <p>3/26/2007 - Marco to clarif with Johannes who is working TTCB stress issues now.</p> <p>9/18/06 - Xinmei has sent bolt calculations. NLR to finish analysis on bolts and components. Combined report to be issued by NLR. Date rolled to 12/25.</p> <p>5/15/2006 - Date changed to Sept. 1, 2006 after consultation with NLR/SYSU.</p> <p>3/3/2006 - Xinmei Qi has completed updated analysis and will provide report to Bruce Sommer for review.</p> <p>11/14/2005 - Updated analysis will be presented at TWG meeting in Milano.</p> <p>9/8/2005 - Analysis to be provided at TTCS CDR.</p>	Xinmei Qi	SYSU	December 25, 2006	0
14.6	TTCS	AMS_02-TTCS_PDR-20 Initiated by: H. C. Lo/NASA NLR to provide more detail in the structural analysis report	<p>June 4, 2007 - TTCB Stress has been received by Jacobs and is under review</p> <p>9/18/06 - Xinmei has sent bolt calculations. NLR to finish analysis on bolts and components. Combined report to be issued by NLR. Date rolled to 12/25.</p> <p>5/15/2006 - Date changed to Sept. 1, 2006 after consultation with NLR/SYSU.</p> <p>3/3/2006 - Johannes Van Es to provide document to Mike Capell and Craig Clark for review.</p> <p>11/14/2005 - Document to be released in time to support TWG meeting in Milano.</p> <p>11/7/2005 - NLR proposes 12/1 for document release date.</p>	JvE	NLR	December 25, 2006	0

ID	Area	Action Description	Action history	Actionee	Group	Due date	Status
14.7	TTCS	<p>OPMT OI# 05-154 Leak Before Burst Analysis</p> <p>Obtain written concurrence from Glen Ecord and Bill Manha that existing condensor tube and magnetic flange design and verification plans are acceptable</p>	<p>June 04, 2007 - Test plan was received and reviewed by Manha, Leland H. Testing is scheduled for this week. Written concurrence from NASA is expected after review of test results.</p> <p>3/26/2007 - Johannes confirms testing will still be done at Resato, not AIDC. No date set yet.</p> <p>2/5/2007 - Test company identified (Resato), final details in work. Test expected within a month.</p> <p>11/27/2006 - test Plan is being negotiated with Test Company; awaiting test costs.</p> <p>6/26/2006 - Awaiting design details from Johannes before work can continue.</p> <p>5/08/2006 - Discussions w/ Manha indicate that Safety Factor relief is possible; but need final design for tube sizing before they can commit.</p> <p>11/10/2005 - Magnetic flange added to list.</p>	LH	ESCG	September 30, 2005	O