CARLO GAVAZZI SPACE SpA

RELAZIONE DI RIUNIONE/VISITA
MINUTES OF MEETING/VISIT

N°

FOGLIO 1 **DI** 3
SHEET ***OF***

DATA – ***DATE***	**LOCALITA'** – ***LOCATION***	**COMMESSA** – ***JOB***	**RIF.** - ***REF***.
11/05/01	CERN	AMS02- Hand control	

IMPIANTO PROJECT

DESCRIZIONE ***DESCRIPTION*** AMS02- Hand control
Phase 1 conclusion

LOCALITA' ***LOCATION*** GENEVA - CERN

CLIENTE ***CUSTOMER*** CERN

ORDINE ***CONTRACT***

SCOPO RIUNIONE PURPOSE OF MEETING

AMS thermal PDR

REDATTO – ***WRITTEN BY***
M. MOLINA

DISTRIBUTION
R. Battiston, R. Becker, K. Bollweg, M. Brouwer, J. Burger, M. Capell, C. Clark, H. Hofer, G. Laurenti, K. Lübelsmeyer, M. Molina, R. Naire, E. Perrin, M. Pohl, D. Rapin, S. Schael, R. Schlitt, B. Verlaat, C. Vettore, W. Wallraff, A. Woering

PRESENTI ATTENDED BY

NOMI - ***NAMES***	**POSIZIONE** - ***POSITION***
H. MOFER (AMS collaboration) J.BURGER (AMS collaboration) M.MOLINA (CGS) C. CLARK (LM) M. BROUWER (NLR)	

CGS presents model status and main thermal analysis results.	
In order to establish a better link between CGS (responsible for the Phase 2 Thermal control design) and LM a weekly teleconference is scheduled, open to interested subdetectors LM will get regular updates of the analysis results in order to be able to independently compare data and discuss consistency (also upon request).	AI, LM, CGS, J.Buger May, 23 16:30 CET 09:30 CST
In order to get consolidated models for NASA, LM will require them from CGS though the Collaboration.	AI CGS 11/06/01
LM asks for an evaluation of the view factor from the AMS components to the neighbouring payloads envelope, in order to verify that is no more than 0,1 for active surface.	AI CGS CDR - 1,5 (present CDR 17/9)
Surfaces with of VF with adjacent payload envelope with a reflectivity larger than than 10% shall be identified, and used only if necessary.	AI CGS CDR - 1,5
CAB radiation cutout needs to be added to the model when position will be consolidated.	AI R.Becker 19/05/01
Inputs to LM have to be provided by ECAL group for the manufacturing of the Hi-Fi simulator for the neutral buoyancy facility.	AI CGS 14/05/01 (inform. F.Cervelli) AI F.Cervelli

(1) INDICARE IL NOMINATIVO RESPONSABILE DELL'AZIONE E DATA DI COMPLETAMENTO

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11/05/01	GENEVA	AMS _ Thermal Control	

PUNTI *ITEMS*	ARGOMENTI DISCUSSI – *DESCRIPTION OF DISCUSSION*	AZIONE A CURA (1) *ACTION BY (1)*
	ISS thermal model updates will be delivered to CGS when Available by LM .	TIM - CERN (18/6)
	Meantime, the Collaboration should ask NASA to officially Provide the present ISS model.	AI Collaboration J.Burger end of May
	Tracker group will deliver CGS varying linear conductors to run cases B= +60; B= 0; B=+50 presented by CGS, with increased radiator areas.	AI NRL 25/05/01
	NRL will run the fluidic model for these cases.	AI CGS 25/05/01
	NRL will optimise the control of the loop, operating the switch valve between the two radiators in order to use the coldest one.	AI NRL TIM
	Electronic crates recall that the goal for them a maximum crates interfaces temperature at 50 °C CGS will investigate the radiator temperature necessary to achieve this goal in the framework of a separate contract . CGS will propose a design compliant with this specs.	AI CGS TIM
	Collaboration will ask Space Cryomagnetics to provide an evaluation on the magnet endurance, based on vacuum case temperatures and heat leak to the vacuum case.	AI Collaboration H.Hofer 18/05/01
	CGS will provide an evaluation on the heat leak to the V.C.	AI CGS TIM
	LM + NRL+ CGS will provide comparative temperatures of The vacuum case and of the tracker.	AI NLR, CGS, LM TIM
	The Collaboration will verify the cryocoolers specifications sent to CGS and provide the performance curve details on mechanical/thermal interface will be provided to CM/CGS	AI Collaboration H.Hofer 18/05/01
	LM will provide scenarios for cargo bay transfer cases. The cargo bay cases will be run by cases with the support of LM to identify the heaters power needed for thermal conditioning before transfer.	AI, LM, TIM, CGS CDR - 1,5 m

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PUNTI *ITEMS*	ARGOMENTI DISCUSSI – *DESCRIPTION OF DISCUSSION*	AZIONE A CURA (1) *ACTION BY (1)*
	An additional run will be done by CGS with AMS in the cargo bay, with the the STS docked to ISS. The inclined radiators can be prolonged up to the TRD radiator edge. For the time being the lower LEPS is not needed.	AI CGS CDR 1,5 m
	Silvered FEP should be used in the model instead of OSR, if higher performance coating are needed w.r.t. whitepaint.	AI CGS TIM
	The cryos temperatures presented have been obtained using 108 W dissipation. As the power dissipation is confirmed depending upon the temperature, CGS will further investigate the cryos thermal control, with a possible zenith radiator usage.	AI CGS end of July
	A refined TRD + UTOF model, including the mathematical model of the M structure, will be provided to CGS. The "Phase 1" contract is agreed to be concluded by this meeting. The open points highlighted in this minute will be closed by CGS, with no additional costs with the respect to the submitted proposal, as soon as a Letter of Intent allows CGS to continue the work.	AI Aachen/OHB TIM
	NLR activities contained in this minute an considered covered by the tracker group.	
	Comments to the distributed ICD issue 3 will be provided by the subdetectors groups, remembering that <u>all</u> the thermal links among subdetectors shall be included in the document. All the cable links from subdetectors to electronics, an subdetectors responsibility	AI all subd.groups 01/06/01
	AMS Collaboration will provide LM **reliabily** figures in order to proceed with debris shield sizing.	Collaboration closed >95%
	LM to provide debris analysis	LM 25/05/01
	A star tracker will be added on AMS. R.Battiston will provide information to R.Becker CGS and LM will get accomodation information from R.Becker as they are available.	R.Battiston end June