



SPIRE-ESA-MOM-000483

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meeting place <i>lieu de la réunion</i>	ESTEC	chairman <i>président</i>	SV		
minute's date <i>dates de minute</i>	09/02/01	participants <i>participants</i>	See appendix		
<i>subject/objet</i>	HGSSE #11 MoM	copy/ <i>copie</i>			
description/description		action/action		due date/date limite	

Objective & Agenda

See SV's VG#1

There were the following comments on the proposed agenda:

It was agreed that the FGSSE should be renamed HGSSE.

PR and RH asked for the CCM and the distributed development set-up to be reviewed by the HGSSE. The CCM should be reviewed to make sure that the CCM is in line with the overall system design. The distributed development set-up should be reviewed to assess the portability of this set-up to maintenance. This was agreed in principle and is in fact covered in the HGSSE ToR, under monitoring of development. However this was agreed that this was not for discussion at this meeting.

Comments on the FGSSE#10 MoM:

PR and SV questioned the point 2 page 4 of the MoM, i.e. PACS instrument HK will not carry OBSID and BBID because of non synchronization of the HK data with science data (PACS has 4 different processors). RH precised that indeed PACS had in the meantime reviewed this point. HK TM packets are now to include the ObsId and BBId context. It was still however unclear how the HK data can be related by the HCSS to ObsId and BBId.

[in a follow-up discussion with Otto, I understand that the SPU and DecMec processors will have the Obsid and BBid context, allowing to associate their HK data with an Observation and BB context. Is that your understanding Rik?]

This prompted a further discussion on what exactly were the FSC and ICC requirements on the instrument wrt to Obsid and BBid. It was agreed that these requirements should be written down and then passed on to

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the different instrument teams. It was in particular stressed that the all three instruments should have, unless proved non feasible, the same definition and location in their TM data fields for these parameters.

ICCs took an action to provide a first draft of this OBSid/BBid technical specification, this first draft should then be reviewed by the HGSSE in a teleconf. The teleconf was set for the 15/02 15h00 CET. It will be set-up by SV.

⇒ **AI#290101/1: PR, RH and SS to draft the OBSid/BBid technical specification. Due date 13/02.**

Review of Actions

AI#161100/1: no input, remains open. The intention is to identify ILT test data which would be needed/re-used in EE tests. Part of this action should be to review the ILT test plan. First inputs of these plans should be issued as part of the IIDR data packages in the March/April time frame.

AI#161100/2: action closed by new action AI#290101/1 (see above).

AI#161100/3: Action closed by email from PE dated 21/11/00. The OIRD requirement (MTL-9) specifying the shifting of instruments command timing on board is coming from the ISO experience. It was recognized that such a requirement generates complexity in many areas of the GS (e.g. Mission planning, TM ingestion) and on board (timeline shift). In addition, the need for such a requirement could not be confirmed for Herschel (different operation concept than ISO) . PE asked ICCs project manager and the GS manager to confirm or otherwise that there is no such need on the instrument and MOC side. If this is the case, the OIRD requirement (MTL-9) should be amended.

⇒ **AI#290101/2: ICCs to ask their respective project managers to confirm or otherwise to the H/P project(PE) on the need for shifting instrument command timing on board. Due date 15/02/01**

⇒ **AI#290101/3: F/P GS manager manager to confirm or otherwise to the H/P project(PE) on the need for shifting command timing on board. Due date 15/02/01**

AI#161100/4: closed by JD's email dated 22/01/01 including the S2K generic TM I/F SRD (ref. S2K-MCS-SRD-0011-TOS-GCI, draft 0.3)

AI#161100/5: closed by JD's email dated 22/01/01 informing that the S2K v2.3 (september 01) would implement a feature allowing to trace TC history entry to command request from outside S2K, using an additional id.

I S T

Frederick Wechsler (H/P project) joined the meeting for this section

SV presented the IST concept as currently defined in the FGSDD with the purpose of confirming or otherwise the concept. See SV slides#5-7. The following points were discussed:

- NRT TM I/F. It was agreed by FW that the ILT NRT TM I/F should be re-used for IST for the TM flow from the CCS to the HGSSE.
- CCS auxiliary data: The IRD is yet imprecise in the definition of auxiliary data which are expected from the CCS. HSC and ICCs have taken an action to review this part of the IRD (section 4.9). The alternative presented by SV (see slide #6) to have RTA generate some auxiliary data (e.g. TC history) was not deemed feasible by JD: RTA would not have the proper timing information for the commanding. It was also pointed that one should wait for the actual definition of the CCS by industry before looking at alternatives.
- ⇒ **AI#290101/4 : FSC + ICCs representatives to review set of auxiliary data expected from the CCS, IRD 3.9. Due date 28/02.**
- OBSMgt: It was proposed by JD and agreed that the Instrument OBS Mgt should be seen outside the CCS (see slide # 7) and part of the instrument EGSE. In other words, the instrument team will directly deliver to industry the sequence of TC implementing an instrument OBS patch versus delivering a new complete OBS image. This has the main advantage to leave untouched the instrument OBS Maintenance facility output.
Related to this discussion, JD was asked to clarify the status of the OBS Mgt ICD for DSP. JD is only aware of an ICD for the MIL-STD-1750 processor.
- ⇒ **AI#290101/5 : JD to check status of the S2K OBS Mgt ICD for DSP. Due date: next meeting.**
- Test Control I/F: PR and SV stressed the need for the HCSS to have each execution of instrument command sequences to be uniquely identified through ObsIds and BBIds, in particular for TM ingestion and IA/QLA purpose. FW sees this need as problematic. In IST, test procedures are under strict CC and in fact are frozen unless they are found to be faulty. Consequently, the industry will not allow any changes (i.e. changes to ObsIds and BBids) to a test procedure before re-execution. PE, however, agreed that this could be subject to discussion with industry should this be confirmed important for the concept of smooth transition between ILT and IST. SV, PE and FW will meet on the 14/02 14h00 to further discuss this issue and in particular to clarify the importance of this unique identification of instrument command sequences execution.
- Time correlation: As in ILT and Ops, no time correlation should be needed in IST for instrument purpose. This pre-suppose, as stressed by JD, that the prime will maintain the TAI on board during all IST testing.
- MIB: No issue raised. It is expected that the industry will interface with instrument teams in compliance with the S2K MIB ICD. JD mentioned that it was foreseen in other projects (e.g. Rosetta) to replicate

the SDB at different sites during the satellite AIV, making it easier for instrument teams to import/update SDB data.

ToR

SV recalled that there a recommendation pending from the FCSS review board to consolidate the ToR of the various groups including the HGSSE. Clarification on this consolidation has been requested from the review board and should be waited for before eventually updating the HGSSE ToR.

HGSSE documents updates

SV identified changes to HGSSE documents mainly following the FCSS SRR review, see slides#2-4

Overall:

JDD and PR agreed with answer to RIDs by SV, see SV email dated 15/01/01. RH and SS took an action to comment SV's answer to RIDs by 15/02.

⇒ **AI#290101/6: RH and SS to agree to SV's answer to RIDs on HGSSE documentation. Due date: 15/02.**

JD raised the issue of tracking the changes that are not covered by RIDs. JD proposed to follow a formal process based on documentation change requests as followed by ESOC in line with ISO 9000. JD will forward this procedure. SV will also need to discuss this further with JRR, as the HGSSE documentation should follow the same change procedure as the other HCSS documents.

FGSDD:

RH will take over from SV the custodianship of this document and will manage all changes to this document, outlined in slide #2 (Thank you Rik!)

IRD:

Following FCSS SRR R07-1, PR, SS, RH, SV & JD took an action to go through the IRD TBC, TBD and TBW to identify the TBs that could be removed.

⇒ **AI#290101/7: PR, SS, RH, SV & JD to identify TBC, TBD and TBW in IRD that can be removed: Due date 28/02.**

It was agreed that the FCSS SRR recommendation R12-1 on high level interfaces for observation quality control was already covered as far as the IRD was concerned (see 3.7.5).

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Wrt to an additional IR for qualifying the communication link between the MOC DSS and the HCSS, see slide#3 and FGSSE#10 MoM. JD took an action to check what will be the protocol for retrieving consolidated TM data from the MOC. SV pointed that the protocol should guarantee that no consolidated TM packets can be lost between the MOC and the HSC.

⇒ **AI#290101/8: JD to investigate protocol to be used between MOC and FSC for consolidated TM data. Due date 28/02.**

Following FCSS SRR R05-3, the IRD was reviewed against the SIRD along the points identified by SV in email dated 19/01. The table below summarises the points and the meeting conclusion:

SIRD requirement	IRD	Issue	Disposition
ICCF-075 p 28	3.7.8 3.4.4	<p>The SIRD explicitly requires instrument health and monitoring information to be passed from ICC to MOC.</p> <p>There is no one-to-one correspondence with IRD. To my understanding, this requirement is partly covered by the requirements related to instrument database (IRD 3.4.4 and 3.7.8) and instrument procedures (IRD 3.4.9 and 3.7.5). However there may be more:</p> <p>Going into the details of ICCF-075, SIRD requires:</p> <ul style="list-style-type: none"> - definition of science + HK parameters to be monitored (in fact only HK parameters will be monitored by MOC): Covered by instrument database - definition of relevant "event" messages. Covered by?? - Definition of the "TC verification messages" Covered by?? - Definition of parameters limit: Covered by instrument database - Definition of validity conditions: Covered by instrument database - Definition of conditions under which an action is required: Covered by instrument procedures? - Definition of the action to be taken (when conditions are met): covered by instrument procedures? 	<p>It was clarified by JD/PE that event messages and TC verification messages in the SIRD can be read as event TM packets and TC verification TM packets.</p> <p>IRD will be updated (comments only) to clarify the content of instrument database and instrument user manual in line with SIRD.</p> <p>SIRD will be modified to precise that only HK parameters are monitored by MOC.</p>

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SIRD requirement	IRD	Issue	Disposition
		<p>- Specification of how many times the parameter is OOL before an action is taken: Covered by instrument database</p> <p>Do you agree? Where are "event messages" defined? Where are "TC verification messages" defined? What are "TC verification messages"?</p>	
ICCF-090	3.7.9 3.4.5 3.7.11	<p>SIRD is requesting instrument user manual and contingency operational procedures from ICC</p> <p>IRD is requesting instrument manuals and instrument procedures from ICC</p> <p>Is instrument user manual in SIRD, the same as instrument manual in IRD?</p> <p>Are instrument contingency operational procedures in SIRD the same as instrument procedures in IRD?</p>	<p>IRD will be modified to replace instrument manual by instrument user manual</p> <p>SIRD will be modified to extend ICCF-090 to any instrument operational procedures</p>
ICCF-100	none	No mention of OBCP in the IRD	IRD will be modified to add IRs related to instrument OBCP flowing from ICC to MOC
ICCO-025		The SIRD requires ICC to support FSC for help desk matters. This should translate in the IRD in IRs for Helpdesk information to flow between FSC and ICC.	IRD will be modified to add Helpdesk information related IRs.
	3.7.8 3.4.4	On the contrary of the IRD, The SIRD does not mention the instrument databases for delivery from ICCs to MOC	SIRD will be modified to include requirement(s) on instrument database.
	3.4.3	On the contrary of the IRD, the SIRD does not mention the SSO database for delivery from FSC to MOC	SIRD will be modified to include requirement(s) on SSO database
ICCO-040	3.4.6 3.7.10	On the contrary of the IRD, the SIRD does not explicitly mention the instrument apertures misalignment updates for delivery from ICC to MOC. ICC0-040/pointing is TBD in the SIRD	SIRD will be modified to include requirement(s) on instrument apertures misalignment.
Perf-052	3.5.1. 3	The SIRD performance requirement is not exactly in line with the IRD one: Perf-052 puts solely the requirement on FINDAS, i.e. FCSS. This requirement involves in fact both MOC and the	SIRD will be modified to correct performance requirement in line with IRD.

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SIRD requirement	IRD	Issue	Disposition
		FSC/FCSS.	

Finally still wrt the SIRD, as proposed by PE in an email dated 21/11/00, it was agreed that the following former IRs (see IRD v1.2) will be moved as is to the SIRD: 3.1-40, 3.1-50, 3.1-60, 3.1-70, 3.2-20, & 3.2-40.

System Design

TC history extension

Bryan Melton and Serge Valera joined the meeting for this discussion.

SV presented the issue "what is the best way to relate TC history entry and instrument command generated by the HCSS?" and trade-off, see appendix and JD's email as a reply to AI#161100/5. Serge presented TOPE (Test and Operation Procedure Environment to be used as the basis to the EGSE-ILT Test Control). It was agreed that, having a command id generated by the command source, which would then be appended to the TC history corresponding entry (see JD's email) offer the cleanest solution.

The availability of this feature in S2K in time for ILT was then discussed. JD confirmed the plan to have this feature implemented in S2K v2.3 (planned June 01). However, the availability of this feature for ILT could not be confirmed at the meeting:

- S2K v2.3 is not funded yet
- BM mentioned a new S2K line (S2K evolution based on open source SW) which made it unclear what would be the S2K line supporting ILT.

[it was clarified at the EGSE meeting #9 on the 31/01 that the EGSE-ILT would be based on the S2K evolution line]

A fall back solution was proposed by Serge and JD, i.e. to have the EGSE-ILT test control (based on TOPE) to generate the TC history in place of S2K. TOPE through the S2K command injection I/F can access all necessary TC history data and build the TC history table in the same format as S2K. This would guarantee the smooth transition for TC history between ILT and Ops. However limited, this would represent an additional development for the PACS (EW) in charge of developing the EGSE-ILT test control. Agreement with PACS (EW) is therefore needed to confirm the implementation of this solution. In

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addition, it is important to make sure that the EGSE-ILT uses the same id format as the future implementation in S2K.

⇒ **AI#290101/9: JD to investigate S2K additional TC history field format to relate TC history entry and external command mnemonic. Due date 28/02.**

ILT ICDs status:

The following was reported:

- MIB format ICD: PR expects the MIB format ICD to be delivered by LD as planned, i.e. 02/02
 - NRT TM ICD: Although the formal date for the first draft of the NRT TM ICD is 02/04, it is expected that a first draft will be available by 15/02 (PR).
 - Instrument OBS interchange format ICD: PR reported that this ICD had not been discussed at the last IFSI meeting. Status should be asked to Otto, possibly at the next HCSS-MG meeting.
 - HCSS-RTA TM ICD: Following JD's reply to AI#161100/5 on generic TM I/F, it was clarified by JD that the specification will be amended to support the HCSS-RTA TM I/F. However the S2K commitment and development schedule for this I/F is not clear. PE stressed that if the adaptation to this I/F to support the HCSS is to be funded by the H/P project, this is a non-starter.
- ⇒ **AI#290101/10: JD to check the development plan for the implementation of the S2K generic TM I/F. Due date: next meeting.**
- Test control I/F: SV and RH had a different issue date for this I/F, 22/02 versus 22/04. This is to be clarified in the larger context of the Test Control I/F development schedule which is still TBC.

PE proposed that all ICDs be developed following the same format. He will send the generic ICD format to SV for further distribution.

Clarification on PACS SW development (follow-up from last meeting)

Compression/decompression and BB identification on board: Clarification was provided at the CSDT#1 Meeting, see FSC/MOM/0170. The group however stresses that unless proved unfeasible, the generation of the ObsId and BBId should be done at one single place in the system, i.e. by the CUS versus having also the PACS OBS involved in this generation. Having multiple sources for these ids is a potential source of inconsistencies, will increase maintenance complexity of the system in this area. In addition, this would constitute a PACS specific. PR made a specific comment about the case against PACS generating BBIDs on-board " it is not acceptable that the system we design could lead to the situation where a change required by one instrument in a component -e.g. a change in representation of BBIDs- CANNOT be accomodated because it requires an OBSW update for another instrument -PACS".

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- QLA NRT I/F: RH did not see any issue. SV explained that he was still unclear how the PACS IA/QLA would interface with the HCSS and stressed that the HCSS will only provide one same framework for all 3 instruments. RH explained that if PACS needs any specific in this area, it will be developed by the PACS ICC.

Open actions (recap):

- ⇒ **AI#161100/1 FSC and all 3 ICCs to investigate potential additional tests or activities in ILT to support SVT or end-to-end system testing. Due date next FGSSE meeting.**
- ⇒ **AI#290101/1: PR, RH and SS to draft the ObsId/BBId technical specification. Due date 13/02.**
- ⇒ **AI#290101/2: ICCs to ask their respective project managers to confirm or otherwise to the H/P project (PE) on the need for shifting instrument command timing on board. Due date 15/02/01**
- ⇒ **AI#290101/3: F/P GS manager (JD) to confirm or otherwise to the H/P project (PE) on the need for shifting command timing on board. Due date 15/02/01.**
- ⇒ **AI#290101/4: FSC + ICCs representatives to review set of auxiliary data expected from the CCS, IRD 3.9. Due date 28/02.**
- ⇒ **AI#290101/5: JD to check status of the S2K OBS Mgt ICD for DSP. Due date: next meeting.**
- ⇒ **AI#290101/6: RH and SS to agree to SV's answer to RIDs on HGSSE documentation. Due date: 15/02.**
- ⇒ **AI#290101/7: PR, SS, RH, SV & JD to identify TBC, TBD and TBW in IRD that can be removed: Due date 28/02.**
- ⇒ **AI#290101/9: JD to investigate S2K additional TC history field format to relate TC history entry and external command mnemonic. Due date 28/02.**
- ⇒ **AI#290101/10: JD to check the development plan for the implementation of the S2K generic TM I/F. Due date: next meeting.**

A O B & N e x t M e e t i n g

The FGSSE#12 meeting will be held on 13-14th March 2001 in RAL (UK).

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A t t e n d e e s :

John Dodsworth (ESA – ESOC)
Pierre Estaria (ESA – H/P project)
Rik Huygen (KUL)
Brian Melton (ESA – TOS-EMG) (TC history part only)
Peter Roelfsema (SRON)
Sunil Sidher (RAL)
Serge Valera (ESA – TOS-EMG) (TC history part only)
Stephane Veillat (ESA – HSC)
Frederick Wechlser (ESA – H/P project) (IST part only)

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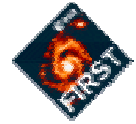
O. Bauer (MPE)
J. Brumfit (Aurora – HSC)
T.G. Dimbylow (RAL)
K. Galloway (Aurora – HSC)
A. Heras (ESA-HSC)
S. Lord (IPAC)
J.J. Mathieu (ESA – TOS-EMS)
Nestor Peccia (ESA-ESOC)
G. Pilbratt (ESA – HSC)
J. Rector (IPAC)
J. Riedinger (ESA - HSC)
E. Wiezorrek (MPE)

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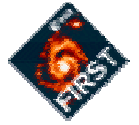
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SV ' s slides:



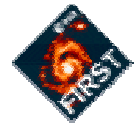
FGSSE#11, Agenda (draft)

- **Comments on FGSSE#10 MoM and FGSSE#11 agenda**
- **FGSSE pending actions** (~1+1/2 hour)
 - AI#161100/1 ILT additional activities to support IST and Ops (FSC+ICCs)
 - AI#161100/2 data frame timing (ICCs)
 - AI#161100/3 schedule shift (PE) (see PE's email dated 21/11/00)
 - AI#161100/4 SCOS-2000 generic TM I/F (JD)
 - AI#161100/5 SCOS-2000 evolutions for TC history I/F (JD)
- **FGSSE documents update:** (SV, all) (~1+1/2 hour)
 - FCSS SRR review recommendations R03-2, R05-3, R07-1, R12-1 + RIDs (see SV email dated 15/01/01)
 - follow-up from last meeting discussion
- **FGSSE ToR**
 - FCSS SRR review recommendation R02-1
- **System design** (RH, JD, SV) (~2 hours)
 - clarification on PACS On board SW development (RH follow-up of last meeting):
 - compression/decompression
 - BB identification on board
 - QLA NRT I/F
 - TC history ICD (JD/.SV)
 - follow-up of next meeting and trading-off various solutions (see attachment)
 - ILT ICDs status (all)
- **IST(getting started)** (SV,all)(~1+1/2 hour)
 - identifying system design issues (see attachment)
- **Other System activities reporting/monitoring/co-ordination**
 - co-ordination with EGSE-WG and/or with ESA-TOS(EGSE) activities
- **Next FGSSE meeting**
- **AOB**



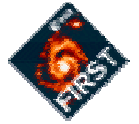
FGSDD updates for next version (1.1)

- FIRST-> Herschel
- Add signature list according to Project memo (R03-2)
- RIDs from FCSS SRR review (RIDs 87- 89)
- Removal of the term FINDAS
- Update of IST part?



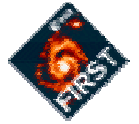
IRD updates for next version (1.4)

- FIRST-> Herschel
- Modify signature list according to Project memo (FCSS SRR R03-2)
- Update following review against SIRD (FCSS SRR R05-3)
- Incorporate RIDs on IRD from FCSS SRR review (RIDs 41-48)
- Review TBCs and TBDs (FCSS SRR R07-1)
 - Review I/F with CCS?
- Add requirements between FSC and ICCs for observation quality control and support to helpdesk (FCSS SRR R12-1) ??
- Add requirement on detection of pb in the link between FSC and MOC (FGSSE#10):
 - *The FSC - MOC communication protocol shall support the detection and the recovery of consolidated TM drop between the two centers*



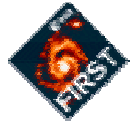
List of ICDs updates for next version (1.1)

- FIRST-> Herschel
- Modify signature list according to Project memo (FCSS SRR R03-2)
- Incorporate RIDs from FCSS SRR review (RIDs 49-50)



IST discussion points for FGSSE#11

- IST is so far documented in Ops document section 6.2, FGSDD section 3.3 and IRD section mainly 4.8 and 4.9. Any a-priori comments?
- Overall set-up (see diagram below) any comments?
- Test Control I/F: the baseline (see FGSDD and IRD) is to have an off-line interface between the FCSS and the CCS/Test Control. Command mnemonic sequences generated by the FCSS are delivered to the industry for execution on the CCS. How is it compatible with the need to have each command sequence execution uniquely identified in the FCSS (by OBsId) especially in case of multiple executions of these sequences on the CCS?
- MIB I/F : any issue? Is that right to say that the reference database for the instruments is with industry during IST and to expect that industry will deliver updates for FCSS purpose in the MIB format.
- CCS data I/F: what are the auxiliary data needed from the CCS: OOL data, TC history data, mission timeline summary... see IRD 4.9



IST discussion points for FGSSE#11 (cont'd)

- Wrt OOL and TC history, could we envisage RTA in IST to generate them, instead of relying on the CCS. The big advantage is that, RTA being S2K based, it would guarantee getting these information in the same format as in ILT and Ops. The drawback is that, at least for the TC history, RTA should be fed with commanding information by the CCS.
- TM I/F any issue?
- OBS I/F: The baseline (see FGSDD and IRD) is that the industry hold the OBS reference images for the instruments. Can we assume that the images can be handed over in the same format as for ILT and Ops, I.e. in a format compatible with the S2K OBS mgt subsystem. If not, could we envisage to re-use the S2K Obs Mgt in IST and deliver only resulting patches to industry (in the form of PUS TC service 6).
- Any I/F missing?
- Any other points we want to discuss now?

