Participants:

O. Bauer
P. Estaria (first and second day)
A. Heras
M. Kessler (first day)
K. King
G. Pilbratt (first, second and half of third day)
J. Riedinger
P. Roelfsema
S. Veillat

Introduction (G. Pilbratt)

Agree

- Objectives of the meeting
- What the scenario document is
- FGSSE debrief
- What the open points are: compile list
- Address open points
    - Splinters
    - Editorial sessions
- Take stock: Future
- Near-term schedule
- SIPs production & review

SV: Terms of reference for FGSSE; GP: can be addressed but we shouldn't get sidetracked too much. PE: Schedule/scope/what is needed (hardware & software) for ILTs/ISTs. OHB: Need to establish organisational structure. All: Need list of top level milestones (not necessarily with dates) in the scenario document. MFK: Won't be present a lot; TP (community support), LM (complementary to ICCs), CA (lessons learned from ISO post-mission archive) can be called in.

People's boundary conditions/availability:

GP: Thursday lunch time
OHB; Friday evening
PR: Friday lunch time
SV: Friday late (in principle)
PE: Wednesday late
AH: Friday late
KK: Friday late
JRR: Friday late

Objective of the meeting

GP: Ultimate objective: Leave with a completed document (agreed sections). Backup strategy: To have resolved all open points (or a plan for who resolves them by when) such that the document can be written. MFK: With all the preparatory work that has already been done, the document must be completed this week, otherwise the FIRST GS is dead; open points: assess which of them need to be resolved for the scenario document.

PE: Purpose is not to “complete” but to have something “useful”; document needs FIRST Science Team and FIRST/Planck Project Manager (per interim: Francis Vandenbussche as of yesterday) approval/concurrence.

Agreed: Allocate limited time for each open point; appoint someone to write it up off line during the meeting.

What the scenario document is

- Discussion and update of Section 1.1, “Scope and Structure”, of the Scenario Document.

FGSSE debrief

- SV VGs covering operational, GS-internal data I/Fs. A modification of the “FIRST GS Interfaces” VG will be included in the Scenario Document:
    - completed for community I/F
    - delete description of arrows and add a list of items in each I/F.

- From the MoM of scenario meeting #3: Take over into the Scenario Document the existing tables for data availability (latency) at different operational boxes and complete them for the other phases (ILT, IST, commissioning, etc). This will be “assumptions” which are to be refined to the IRD.

- FGSSE short term plan: Generate the IRD; its scope includes identification/specification (but not implementation) of all information flows between the different elements in the FIRST GS. The IRD shall also identify which of these data flows are to be implemented within procedures; the elaboration of these procedures (“interaction document(s)”) is outside the scope of the FGSSE.

Open Items

- cf. additions to section 2 of the Scenario Document.

Day 2

- AOB: 2 points raised by OHB at the 16-Dec-99 meeting were discussed: (i) pointing accuracy: It was agreed that the actions from the AOCS meeting (AI-FI-06892-01 & -03) must be completed urgently so that simulations giving predicted performance can be performed; (ii) TM bandwidth: Clarification of the overall bandwidth and the split between HK (S/C and instruments) and science data is required, and the position of the Project wrt asking for an evaluation of the feasibility of providing a larger bandwidth in the ITT.

- SCOS 2000: Final report sent to ESOC by PE. A clear commitment from the instrument teams that SCOS 2000 will be used is needed before Project can decide to put it into the ITT. Cf. MoM FSC/MOM/0096 for the prerequisites for this PI commitment to be made, the deadline is mid-April 2000 (Project requirement for draft ITT issue); thus the dates given in FSC/MOM/0096 need revision.

- Scenario document: Complete draft by 21-Jan, deadline for comments 7-Feb, issue 1 by 16-Feb.

- FSC SIP available for internal review by mid-March, in early May available in consolidated form. SPIRE, PACS and HIFI SIPs will be available by mid-June (Action KJK to confirm this date for SPIRE). The SIRD will be updated after the SIP review (to take place early September) and be available by the end of the year).

Day 3

A revised version of the complete section 5 had been distributed. It was agreed to only discuss major items and start work on section 6 in the afternoon. The wordsmithing will be done by FSC during next week before the entire document is re-distributed for a final round of commnets (including editorial comments).

- Between section 5.1 and 5.1.1: insert the type of programs (GT, GO, key programs).
- Add a general introduction to the section (between 5 and 5.1)
- Technical feasibility of proposed observation and OTAC involvment (5.1.3): Split list into (I) what OTAC does, (ii) what FSC prepares for OTAC (identification of duplicate/overlapping observations, technical problems in performing the intended observation) and how OTAC disposition on these is fed back to FSC for further treatment (get proposers together, contact proposer to make an "unfeasible" observation "feasible", etc.)
- All assumptions are collected in a single section (cross-referenced to a later section) and, where necessary, repeated in the section where they are described in more detail/have an impact.
- In the list of acronyms/definitions explain: Time Estimator, Instrument Simulator, Command Generator...
- 5.2: Combine the two explanatory paragraphs.
- 5.2, second para: It was clarified by the ICCs that a calibration that could not be instantiated by using a standard AOT does not require an FSC-provided special tool to enter this observation.
- Add something upfront in the introductory section of 5.2 about use of proprietary data for the sole purpose of instrument calibration by the ICCs.
- First para of section 5.2.1 marked for wordsmithing (point of FSC entering observations for instrument cross-calibration.
- 5.2.2: Clarify that the CCB is involved in approving all changes to calibration parameters.
- 5.2.2, final para: marked for wordsmithing.
- 5.3: HIFI bands 6 & 7 may require special cooler, all HIFI bands require LOs; Action HIFI: to clarify the requirements wrt LOs, band changes and cooler recycling (24-Jan-00). This also is an input to the use of instruments and science trade-off. Action SPIRE: to clarify impact of cooler recycling (24-Jan-00).
- 5.3: Make explicit an assumption on use of instruments (periods of mixed operations, periods of single use instruments).
- 5.3.1.3: Add user constraints (e.g. fixed time)
- 5.3.2 (end): separate list into two lists.
- 5.3.3: add bullet for rescheduling to investigate contingencies
- 5.3.6: combine non-supported modes.
- 5.3.6: add concatenated observations (supported)
- 5.4: Make sure start and end of an OD is consistent throughout the document (OD starts at end of DTCP is current assumption).
- 5.4.2, 2nd para: Both a start observation and an end observation marker needs to be produced in response to START_OBS and END_OBS commands. This paragraph should go elsewhere (either in the definition or assumption or design concept).
- 5.4: replace OBDH by DHSS.
- 5.4.2: SV to straighten out OBDH-instrument interaction; (i) OBDH does nothing with instrument TC verification packets, (ii) the way the OBDH checks instrument health is by sending an "are you alive" command to which the instrument responds, (iii) what the OBDH does if there is no answer. All the rest should be described in section 5.10.
- 5.4.3: check "Assumptions" for duplications with other sections
- We need an additional two sub-sections in section 5 to address (i) on-board S/W maintenance [KJK], (ii) GS S/W and DB maintenance [SV]
- 5.5: First part of 5.10.3 should go (or be repeated) here, including MOC involvment.
- 5.5: Add to list of bullets memory dump and comparison.
- 5.6: Move all current text into either DTCP or TM delivery sections; write new section on MOC activities.

- 5.7: Include a statement (SV to confirm with JD) that all data becomes available (in unconsolidated form) “immediately” after reception at the MOC in the DDS.
- 5.7: Split into TM and ancilliary data deliveries.
- Need some description for ICC@MOC in section 4.
- 5.8, 1st para: rephrase to delete “formatted raw data”; what is stored is TM packets, what is given to/retrievable by the user may be something produced on-the-fly. IA will be capable of interfacing to both TM packets and the intermediate formats the user might get.
- 5.8: AOT scientific validation goes into PV; PV should not be a solid block (except in schedules) but an activity interleaved with nominal operations.
- 5.9: Reword in line with comments on FRD
- 5.10.2: Clarify what the OBDH does with instrument event packets (just store or open packet and perform some action).
- 5.10.5: Identify backup for failure of MOC-FSC and ICC-FSC high-speed communication links

- Put definition of RTA, QLA etc into the glossary/definition of terms sections
- During ILT the following functions are needed: (i) store function, (ii) RTA to interpret HK TM in real-time, (iii) QLA to interpret science TM in real-time, (iv) IA to interpret science TM off-line.

Day 4

Discussion of section 6:

- Need an overall functional diagram in section 4, giving about the same level of detail as the one in the new section 6.1 (check with PE).
- 6.3: Delete figure 2.
- 6.3: Summarise in one sentence at top level the common objective of these tests.
- 6.3: Restructure along the lines of 6.1 and 6.2.
- 6.3.1: Delete figure 3.
- 6.3.2: KK to provide a para from the SPIRE SIP for ICC stand-alone tests
- 6.5: JRR to add a S/C commissioning section (including mentioning of Project responsibility for this phase.
- 6.5: RT reception of TM is not needed for dump TM during commissioning.
- 6.5: The 32 hours delay of receiving science TM at the ICCs does not seem acceptable. The partition of work between ICC@home and ICC@MOC has not been sufficiently thought about yet.
- 6.5.2: The role of FSC in the commissioning phase planning needs to be clarified.
- 6.5.2: Interaction between MOC and ICC during commissioning needs to be clarified.
- 6.6: Values in latency table should be the same as for instrument commissioning for ICC@MOC, science data 32 hours for availability of science to ICC@home may be incompatible with PV scenario. Live data same as for commissioning (only to ICC@MOC).
- 7.2: add paragraph for accommodation for ICC@MOC
- 7.2: instrument experts also support launch at Kourou.
- 7.3.1: Clarify MOC validation of schedules.
- 7.3.2: Delete everything from “as an example”
- 7.3.3: No ICC use of scientific mission planning during ILT and IST.
- 7.5: Wordsmith...
- 7.6: Helpdesk support for FOTAC ? Helpdesk interaction with the system.
- Add 7.7 “public as a user”