

To: tgs_staff

From: Carey Myers

Date: December 4, 2003

Subject: Minutes of 12/03/03 TGS Project Meeting

Attendees: G. Chapman, S. Speck, A. Welty, M. Reinhart, J. Boia,
D. Jones, M. Boyer, C. Myers, L. Foor, M. Giuliano, R. McCutcheon,
M. Galloway, R. Pitts, A. Vick, C. Darby

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*** Next Meeting: Wednesday, December 10, 2003, 9:00 A.M.          ***  
*** Location: Bloomberg B448                                       ***  
*** Topic: Status, design issues, and action items                    ***  
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- Items from the TGSOWG meeting on 11/24/03:
 - The working group is looking at the overall project schedule. They would like to delay the project CDR until after the coarse track (CT) to fine lock (FL) studies are completed (maybe the May timeframe). This does **not** affect our scheduling system design review scheduled for February. Also, the working group added our need dates for PLCP definitions to the project schedule as follows: FHST PLCP design completed by 3/1/04, GSACQ PLCP design changes completed by 6/1/04.
 - The working group discussed the use of the FGSs. They would like FGS 2R to be used as primary, FGS 3R to be used as secondary, and FGS 1 to be available as either primary or secondary. They asked whether this could be designated in the scheduling system software. According to Merle, this would primarily affect the NGSS system.
 - PRD planning: Merle stated that the PRD group can track multiple sets of constraint parameters using database versions and can switch sets using their quick update procedures.
 - A project-level status review is tentatively schedule for December 15, 2003. It's expected to be a 1-hour meeting to present the current status of each of the areas (including the scheduling system).
- Each team gave a status of their work:
 - System engineering – Scheduling system requirements are in DOORS and out for final review. Comments are due by 12/05/03.

- Commanding – Starting probably in early January, they will be involved in a working group (splintered off the OBADWG) designing the PLCP changes for the FHSTs and GSACQs.
- SPSS – Build 46.0 development is complete. This build contains updates to the C&C list and the SCIOPS database to support two-gyro science. The delivery (scheduled for early January) needs to be coordinated with updated database parameters from the PRD group.
- TRANS/SPIKE – An OPR needs to be submitted to have TRANS set a flag in the database for two-gyro visits. Mark G. has been adjusting the SPIKE prototype model as the FHST visibility constraints have become more defined. Design work has begun on incorporating an SAA modeling capability into SPIKE.
- Science/Observation Planning – Alison and George have generated 3 test proposals (containing 600 30-minute visits each) to begin doing a full-sky evaluation using the SPIKE prototype. They've begun analyzing their first runs, which used worst-case constraints (8-10 degrees) and a 100-degree sun angle limit.
- PASS – Design work underway. Bob M. wrote up an approach for handling MAPS and AutoMAPS in two-gyro mode. Also, the ICD-26 update was modified to define single SAU, MAU, and LAU values for the CRPF parameters, to allow a settle time pad for each OBAD, and to add a flag to make the second OBAD optional.
- Testing – Leslie installed the DOORS client so that she can begin defining test cases and linking them to the scheduling system requirements.
- Following the regular meeting, a splinter meeting was held to review Bob's writeup on MAPs and AutoMAPs. There was general agreement on Bob's approach: using the existing FHST(MAP) statement to minimize impact to commanding and SPSS, with PASS generating a fixed-duration, OBAD-style map without the associated attitude correction maneuver (already supported by the proposed type 32 FHST MAP command changes). There was an action generated to how this would impact H&S SMS generation. Bob will incorporate comments and send his proposal out for approval.

Attachments

TGS Issues

TGS Action Items

TGS Issues

- Handling of Type 2 slew FHST shutter/availability commanding.
 - Status: Closed 12/03/03
 - 11/12/03 - The OBADWG has concluded that the Type 2 slew command group should remain essentially unchanged, i.e. the command group will continue to command the FHST shutters closed (thus forcing M2G mode), regardless of the length or magnitude of the slew and regardless of FHST visibility during the slew. This means PASS needs to 1) turn off FHST availability (and close the FHST shutters?) prior to the Type 2 slew (maybe as part of the PCPTERM group?), and 2) open shutters and turn on availability at the beginning of FHST visibility only if we're not slewing.
 - 12/03/03 – Using the Autogroup feature, PASS will issue FHST shutter and availability commanding based on FHST visibility windows. PASS will adjust FHST visibility windows to not overlap Type 2 slews.
- Placement of Type 4 slews.
 - Status: Closed 11/12/03
 - 11/12/03 - SPSS will only schedule Type 4 slews between the second OBAD and the GSACQ. SPSS will limit the slew magnitude to .5 degrees.
- FHST maps/automaps.
 - Status: Open
 - 11/12/03 - A suggestion from J. Wirzburger is to command an OBAD (map only, without an attitude correction). R. McCutcheon will assess how PASS would command this, including limiting the duration of the map (see Action Item list).
 - 12/03/03 – Bob M. wrote up a proposal for commanding FHST MAPS and AutoMAPS in two-gyro mode. The proposal was reviewed by the TGS project team and will be sent to the FSW and PCS groups for concurrence.
- Is the second OAD always required?
 - Status: Closed 12/03/03
 - 11/12/03 - Consider adding a SCHF parameter to make the second OAD optional (for SPSS scheduling and PASS checking). The problem is more complicated than that, but at least this would give us a simple way in Phase I of turning the second OAD off.
 - 11/19/03 – Added a SCHF parameter to the proposed ST-ICD-26 updates to make the second OAD optional.
 - 12/03/03 – SPSS and PASS will use the SCHF database parameter to make the second OAD optional. The need to make it optional in SPIKE will be assessed later, if necessary.
- FHST/GOB – Is it required and how does it work?
 - Status: Open
 - 11/12/03 - No new information.

- 12/03/03 – The current understanding is that SPSS/SCS will generate an FHST GOB statement in the SMS at a database-specified time (could be 0) before the guide star acquisition. The statement will, optionally, specify the FHST to use during the first part of the guide star acquisition. It will also, if required, put the FHST in observer mode.
- Earth Calibrations.
 - Status: Closed 11/12/03
 - 11/12/03 - SPSS will schedule them in two-gyro mode in a similar fashion to how they are currently scheduled, using M2G pointing constraints.

TGS Action Items

- 12/03/03-1 Meet with H. Wynn to discuss PASS options for HGA scheduling in two-gyro mode.
Assignee: M. Galloway
Status: New
- 12/03/03-2 Evaluate changes needed for Health and Safety SMSs in two-gyro mode.
Assignee: Commanding, Ops
Status: New
- 12/03/03-3 Resolve with J. Reis whether the Star Catalog should be documented in HST-ICD-T1.
Assignee: C. Myers
Status: New
- 11/19/03-1 Talk to PRD group (M. Bielefeld) about philosophy for PDB updates, IMTOOL changes, and whether quick updates can be supported.
Assignee: C. Myers
Status: Closed 12/03/03
12/03/03 – Merle reported after talking with Mike B. that the PRD group can track multiple sets of constraint parameters using database versions and can switch sets using their quick update procedures.
- 11/19/03-2 Incorporate the discussed changes into the proposed ST-ICD-26 updates, i.e. three values for the OAD times instead of two, and a single set of uncertainty pads (small, medium, and large) instead of pads for each constraint parameter.
Assignee: M. Galloway
Status: Open
12/03/03 – Mary provided a revised update to ST-ICD-26, Part 2 that incorporates the described changes. After making a few final wording changes, the ICD should be ready for review.
- 11/12/03-1 Review Gx values provided by D. Smith and assess how the various gyro combinations constrain the scheduling system.
Assignee: M. Reinhart
Status: Open
11/19/03 – Merle discussed this further with Dan Smith and feels this may become an issue, particularly in regards to whether steps should be taken to ensure that gyro 1 is one of the last two working gyros. Merle will write up his assessment.
12/03/03 – Merle wrote up an initial assessment of the constraining effect of various gyro combinations on the scheduling system. However, after receiving some new information, Merle wants to study this issue further.

- 11/12/03-2 As an aid in reviewing ST-ICD-26 updates, extract the relevant sections of the SCHF and CRPF PDB files for each parameter being updated for two-gyro mode in order to provide current value and origin information.
Assignee: R. McCutcheon
Status: Closed 11/19/03
11/19/03 – PASS provided handouts of the proposed ST-ICD-26 updates (FROM/TO pages) along with a handout of the relevant information extracted from the SCHF and CRPF PDB files.
- 11/12/03-3 Review additional SCHF parameters, such as slew settle times and GSACQ times, to see whether the current operational values are OK for two-gyro mode.
Assignee: R. McCutcheon
Status: Open
11/19/03 – Bob M. looked at additional SCHF parameters, but won't know whether the values are appropriate for two-gyro mode until PCS provides firmer definitions.
- 11/12/03-4 Identify all basefile parameters in TRANS, SPIKE, SPSS, and PASS that may need to be changed for two-gyro mode and trace each parameter back to its source (e.g. CARD, PDB).
Assignee: M. Reinhart (with support from the teams)
Status: Open
11/19/03 – PASS provided Merle with a handout of existing Mission Scheduler basefile parameters, noting any that may be impacted by two-gyro mode.
12/03/03 – Merle hopes to have a complete list by the end of the year.
- 11/12/03-5 Determine need dates for definition of FHST and GSACQ PLCPs, including their parameter and scenario definitions.
Assignee: All
Status: Closed 12/03/03
11/19/03 – The teams agreed that the PLCPs need to be defined by 3/1/04. PASS will provide a first-cut definition of what they think is needed by 1/1/04 and we'll push for a commanding subgroup (off of the TGSOWG or the OBADWG) to finalize the definitions by our need date. Carey will forward this plan and schedule to the TGSOWG.
12/03/03 – Carey provided the following dates to project: 3/01/04 for design of FHST PLCPs and 6/01/04 for design of GSACQ PLCPs. These dates will be added to the project-level schedule and tracked as scheduling system need dates.
- 11/12/03-6 Determine how PASS would issue, and limit the duration of, FHST maps and automaps using an OBAD without attitude correction.
Assignee: R. McCutcheon

Status: Open

11/19/03 – Discussion on whether SPSS should issue the current FHST MAP statement in the SMS which PASS would turn into a map-only OAD, or whether SPSS should issue a FHST OAD statement in the SMS with a map-only parameter set (requires an additional minor change to ICD-11). Bob will write up a proposal (with options) for evaluation.

12/03/03 – Bob wrote up a proposal, which the group reviewed. After a few updates, the proposal will go to FSW and PCS for concurrence.

11/12/03-7 Provide comments on draft scheduling system requirements document.

Assignee: All

Status: Open

11/19/03 – Comments received and reviewed on the SPSS/SCS and PASS sections of the document. Updates incorporated. The updated requirements will be sent out for final review next week.

12/03/03 – The scheduling system requirements document is out for review. Comments are due by 12/05/03.