

To: tgs_staff

From: Carey Myers

Date: April 2, 2004

Subject: Minutes of 03/31/04 TGS Project Meeting

Attendees: C. Darby, S. Speck, D. Jones, M. Boyer, G. Chapman,
M. Giuliano, C. Myers, L. Foor, M. Reinhart, A. Vick,
I. Dashevsky, R. Pitts, T. Krueger

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*** Next Meeting: Wednesday, April 14, 2004 9:00 A.M. ***  
*** Location: Bloomberg B448 ***  
*** Topic: Phase II , issues, action items ***  
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- We discussed upcoming meetings:
 - We will not have a TGS project meeting next week
 - FSW star catalog design review, Thursday 10:00 – Bob M. will support, if needed.
 - FSW T2G design review, Thursday 1:00 – Carey will support, if needed.
 - FSW M2G design review, Monday 10:00 – Merle will support, if needed.
 - TGSOWG meeting, Monday 1:30 – Merle and Clif will support.
 - HST MSR, Tuesday April 13 1:00 – Carey will give a Phase I status, George will lead a scheduling studies discussion, Carey will lead a Phase II implementation discussion, and the team leads will participate in the Phase II roundtable discussion.
 - TIPS meeting, Thursday April 15 10:00 – George and Alison will present science impact study results.
- We went over the list of TGS Phase II capabilities, area by area. There are a lot of unknowns in the APT and TRANS/SPIKE areas because the Phase II capabilities are very dependent on what restrictions/constraints will be placed on science and the schedule is dependent on the TGS proposal-processing schedule. Until we reach decisions on the science impacts, it will be very difficult to finalize a Phase II schedule.
- George mentioned that they had received a new version of the SPIKE prototype, which provided enhanced modeling and performance improvements.

- Merle indicated that he is working on updating the TRANS visibility tables to support TGS Phase I.
- Scott Speck stated that SPSS Build 46.3 had been delivered to the test team and that Build 46.4 is in development and on schedule.
- We went over the open issues and action items. They are attached below. They are also available on the TGS Project web page:
http://www.stsci.edu/org/ess/projects/two_gyro_science

Attachments

TGS Open Issues

TGS Open Action Items

TGS Open Issues

- SPSS will avoid a bad magnetic field alignment when scheduling Type 2 slews and establishing initial rate control. But how do we avoid FSW locking in a bad attitude error when it is autonomously transitioning from M2G to T2G mode in the absence of a Type 2 slew (e.g. following an uncovered SAA occultation)?
 - Status: Open
 - 03/10/04 – Options to consider include: 1) Have SPSS pass IRC times through the SMS to PASS. Then PASS can avoid making the FHST available to FSW until the bad alignment period has passed. 2) Have the FSW be smart enough not to try to transition to T2G mode when they're in M2G open loop. 3) Send commands to FSW indicating when the bad mag field alignment times are. 4) Ignore the problem and let the OBADs take care of it.
 - 03/31/04 – This is not a PCS problem, because the subsequent OBADs will take out any attitude error that was locked in. However, there may be an extended period of large attitude uncertainty until the OBAD executes (due to FHST visibility patterns) during which HGA communications could be affected.
- Are there internal risks that the Scheduling Systems should identify that might impact the TGS Project?
 - Status: Open
 - 02/18/04 – Risks related to science schedulability and types of science that can be supported in TGS mode should be added. The HST Project is requesting that we use their format for defining / tracking risks and that we present our risks at the Project CDR.
 - 02/25/04 – Carey discussed additional risks with Rodger. Carey will write up and review with Rodger, then put risks into Project-defined format.
 - 03/31/04 – This needs to be addressed before the Project CDR in June.
- Provide support for target reacquisitions using the save / restore quaternion feature
 - Status: Open
 - 02/18/04 – Test with ACS (can be done in 3-gyro mode). Add to Phase II work.
 - 03/01/04 – P. Coleman found the PLCPs that support this capability. Rodger suggested that we try to arrange a test in the May timeframe, and use the results to define requirements for a Phase II implementation.
 - 03/10/04 – An on-orbit test is tentatively scheduled for May. Details of the test will be worked out via the GSACQ working group.
 - 03/31/04 – Merle is working with the GSACQ working group on defining an on-orbit test in May. It will probably cover two orbits.

TGS Open Action Items

- 03/10/04-1 Define PDB SCHF parameters for the magnetic field model.
Assignee: C. Darby
Status: Open
03/10/04 – Need parameters for all six gyro combinations and a flag indicating which set to use. Need a parameter defining the minimum time needed in a bad magnetic field alignment in order to trigger the scheduling constraint.
03/31/04 – Get parameter names and values from SPSS and document in ICD 26, Part 2.
- 12/03/03-1 Meet with H. Wynn to discuss PASS options for HGA scheduling in two-gyro mode.
Assignee: M. Galloway
Status: Open
12/10/03 – Needs to be addressed before the Design Review.
02/18/03 – Mary talked to H. Wynn and they will hold meetings later in the Spring.
03/03/04 – Contact for I&C changed from H. Wynn to G. Goulet.
- 12/03/03-2 Evaluate changes needed for Health and Safety SMSs in two-gyro mode.
Assignee: Commanding, Ops
Status: Open
12/10/03 – Merle will coordinate next Spring.
01/14/04 – Bob McCutcheon generated a Health and Safety scenario diagram for two-gyro mode.
03/31/04 – Start looking at this after the May on-orbit test.
- 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: M. Reinhart
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.
12/10/03 – Waiting for PCS definitions.
03/31/04 – Assignee changed from R. McCutcheon to M. Reinhart.
Expect the GSAWG to define TGS values in the June-July timeframe.
- 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.

03/31/04 – Priority on this remains lower than other issues and action items.