

MODIS Team Meeting Minutes

Minutes of the MODIS Team Meeting held on Tuesday June 21, 1994.

Action Items:

75. Determine if the four electronic module boxes can be individually thermal tested in air, or must the thermal testing be done in a vacuum. Assigned to Silva 10/26/93. Due 11/ 9/93

87. Review detailed and summary level schedules for reasonableness. Also identify any additional detailed schedule events which should appear in the monthly summary level schedule. Assigned to Davis, Safren, Waluschka, Ferragut, Daelemans, and Martineau 5/10/94. Due 5/31/94
Davis, Waluschka, and Martineau done 6/ 7/94, Ferragut done 6/14/94

88. Obtain drawings from SBRC for CDR Actions 65 & 68. Assigned to Ken Anderson 5/19/94. Due 6/15/94

The following items were distributed:

- 1) Weekly Status Report #143
- 2) SBRC Memos submission from week #135
- 3) Minutes of the previous team meeting

Attendees:

✓ Richard Weber	Bruce Guenther	✓ Larissa Graziani
John Bauernschub	George Daelemans	✓ Bob Martineau
Rosemary Vail	John Barker	✓ Bob Silva
Lisa Shears	Patricia Weir	✓ Robert Kiwak
✓ Mike Roberto	Mitch Davis	✓ Harvey Safren
✓ Nelson Ferragut	Jack Ellis	✓ Ed Knight
✓ Gene Waluschka	✓ Ken Anderson	✓ Harry Montgomery
Bill Barnes	Rick Sabatino	Marvin Maxwell
✓ Les Thompson	✓ Cherie Congedo	Bill Mocarisky
		Rick Mills

MODIS Team Technical Weekly June 21, 1994

General

The Quarterly Management Review will be held on Thursday, June 30. It will be a video teleconference from SBRC. GSFC personnel will use the video conference room on the first floor of building 23, room E149. The time is from 11 am to 5 pm EDT. A few GSFC personnel will attend the review at SBRC along with splinter sessions on detectors and calibration.

The QMR for the last quarter of FY-94 will be held at SBRC on September 13 and 14. Travel orders should be put in now.

A Martin Marietta Interface Meeting is scheduled tentatively for September 15 at SBRC. The focus of the meeting will be Spacecraft Interface Simulator testing.

There may be a PM interface meeting at SBRC on the 13th or 14th of September with focus on the C&DH interface.

The replan is being worked by SBRC. One consideration is whether a number of analysis functions should be picked up by GSFC. One concern raised by Ken Anderson is that SBRC is slipping in each milestone area.

Ed Knight has a new office, building 22, room 356.

Structural

One question on the assembly of the mainframe that was of concern was whether to torque the bolts before or after the epoxy cured.

There will be a computer outside the test cell for the vibration test at Honeywell. They will be able to check 8 accelerometer channels at a time. They can patch other sets of channels as they wish.

Detectors

Bob Martineau has reported that the responsivity for the PC detectors was artificially high by about 20 to 40%. However, the 1/f noise knee occurs at a lower frequency (about 150 to 200 Hz) than originally thought. The result is that NEI requirements are met. For lot #3, two wafers are looking good.

Electronics

Mitch Davis has documented his trip to the MODIS power supply vendor, Hughes, in Torrance, CA in a memo dated June 15. The power supply was ready for shipment on June 10 to SBRC. Only a few requirements were not in compliance with SBRC specs and none of these were unacceptable to SBRC. Mitch believes Hughes has done an excellent job of documenting the power supply and that if any problems arise, they will be easy to detect and correct.

Three significant changes in the power supply were discussed:

- 1) The power supply failed to work at cold conditions when synchronization was applied. This was fixed by the use of higher quality capacitors.
- 2) The power supply was out of conducted emissions spec at high temperature. This was fixed by changing a MOSFET drive resistance to compensate for a diode temperature variation.
- 3) Power supply does not deliver the expected power in a short circuit test. For the EM, additional shielding will be used to minimize this problem. The correct solution to this problem will involve moving several components and matching several trace lengths. This impacts three PC boards. The correct fix will be incorporated in the PFM.

Quality Assurance

Bob Silva has documented his trip to Loral ABC for the mainframe disassembly after the fit check in a memo dated June 17. For the completion of the mainframe, Bob identified the following issues in his memo: torque requirements related to when and what fasteners will be torqued before or after epoxy cure; bonding and clamping of beryllium panels during final assembly including explanations of clamping operations, force requirements for the different panels and how these were derived; maintaining relative humidity at 70 % or lower during the 7 day epoxy cure; and cleaning prior to painting and the painting procedure.

Bob listed several items which require follow-up discussions related to handling and shipping: lifting hooks on the shipping container should be replaced and then load certified including the lifting sling, desiccant controls need to be reviewed, venting of the bagged mainframe needs to be considered based on possible air transport, and materials used in packaging and shipping the mainframe need to be reviewed for contamination.

Integration and Test

Harvey Safren mentioned that Vern Alferd has a real MODIS I & T financial problem and needs to drop 8 to 10 people.

Systems Telecon

The biweekly systems and calibration telecon was held with SBRC on June 20. GSFC participants included Ed Knight, Harry Montgomery, and Mike Roberto. SBRC had Tom Pagano, Jim Young, Neil Therrien, and Dzung Phan.

Ed raised questions about the following:

- 1) SBRC did not submit a deviation waiver for the edge range for band#31. Tom Pagano indicated that SBRC would re measure Band #31 and no waiver would be forthcoming soon.
- 2) The solar diffuser port stray light study, scattering off the SRCA mirror. The analysis by SBRC has not yet started. It should be started in a month or so.
- 3) The solar diffuser BRDF. This should be completed by SBRC in FY-95. MSAP and the MODIS simulator now consider the BRDF to be ideal (1/ PI).
- 4) A few comments on the filter transmittance measurements. Jim Young would have reservations about +/- 0.001. Jim does not think that accuracy is needed. He thinks 1 % would be conservative, 0.5% would not be unduly conservative.
- 5) Neil mentioned that for the VIS and NIR the coating data is measured. Dichroic #3 was modeled. The PC response was measured. The PC quantum efficiency is normalized.
- 6) Tom Pagano likes the idea of inviting us into the lab to join the integration process.
- 7) The discussion of scatter will probably be handled by Jim Young with a sit down discussion in his office.

Tom Pagano mentioned that radiative cooler testing had been done at three temperature points, including the point for 54 mW. Performance was better than expected.

Lot 3 PC detectors have lower 1/f noise. This makes up for the reduced responsivities. All these PC detectors are in spec except for a couple of detectors.

The problem with band #36 drop-off in transmission is due to dichroic #1.

A test flow charts are being prepared with and without the MGBC. These should be available next week.

Test procedures should be available by the end of July.

For test plans, SBRC is having reviews for the subsystems. Most relate to section 4 of the system level spec. The plans go from system level requirements to how we validate to test procedures. Each test procedure has an overview and a detailed test procedure.

The performance verification plan is currently being updated.

Neil Therrien mentioned that in the last two weeks the VIS and NIR have been being aligned to the IAC. The NIR alignment to the IAC is complete. The final VIS alignment was to be performed on June 21. Once both are aligned to the IAC, then one will be checked to the other.

Work is also being done on validating the data acquisition and reduction software.

With the BAEM and IAC working with the VIS and NIR FPAs, scans are being captured and the system is going from photons to electronic output data.

The simulator produces files with format equivalent to what is being done in the lab buildup of the Engineering Model. The routines being used in the lab were all checked on the MODIS simulator.

Mike Roberto June 24, 1994

TO: MODIS SUPPORT TEAM

SUBJ: SCHEDULE STATUS

As I mentioned at last Tuesday's meeting, I called SBRC to check on the status of ten milestones which were all scheduled to be completed over the last month. (These were/are listed in the schedules I hand out to you each month.) I knew that three events had been completed. The results for the other seven:

Event Number	Title	Due Date (as of 4/21)	New Planned Date (as of 6/24)
E-08-19	Route EM Telescope to I&T	6/17	6/24
E-14-13	Route Scan Mirror to I&T	6/4	6/24
E-16-33	Integration of MEM (Start Date)	5/29	7/11
E-17-21	Integration of AEM (Start Date)	6/6	6/24
E-40-10	Focus and Alignment Software	5/26	6/24
E-40-21	Focus and Alignment Engineering	5/31	6/24
E-40-17	Complete I&T of SYE1	6/15	Complete

As you can see, of the seven events, six have been delayed, and, particularly in electronics, several have experienced significant delays from dates that were just two months old.

SBRC provided me with an explanation, and, of course, they say none of these delays are predicted to impact EM or PFM delivery. I'm sending this message for two reasons:

a. Alert those of you whose events these are that some delays are occurring, and you probably want to check into it with your SBRC counterpart to convince yourself that there won't be a delay to the EM and/or PFM.

b. To demonstrate that there really is some use to those monthly schedule charts that I give you.

Ken Anderson