

MINUTES FROM THE NPP PROJECT SCIENCE MEETING

May 24, 2004

Present: Jeff Privette, Wayne Esaias, Louis Kouvaris, Joel Susskind, Ernie Hilsenrath, Bob Barnes, Kevin Turpie, Jack Xiong, Ron Vogel, Robert Woodward, Patrick Coronado, John Qu, Joseph Lyu, Hassan Ouaidrari, Alex Lyapustin, Natasha Vozza

Action Items Carried Forward:

- 97. Hassan Ouaidrari** to prepare statement with links to different versions of Cal/Val documents with explanations.
STATUS: Closed
- 98. Pete Kealy** to prepare a list of general documents
STATUS: Closed
- 100. John Qu** to secure agreement from NGST to use the VIIRS simulation software on NPP1.
STATUS: Closed

MEETING DISCUSSIONS

1) General remarks: Jeff Privette:

- The Project requested a chart summary of the science implications of an afternoon NPP orbit. Jeff contacted different ST and PSG instrument leads and discussed the issue with them. Most encouraged the change; there were no strong objections.
- Jeff said that he would be out of the office for the next 2 weeks.

2) VIIRS: Wayne Esaias, Hassan Ouaidrari

- There was an IPO/NGST/VOAT leadership meeting May 14 to discuss crosstalk issues.
- VisNIR ROIC chip assembly shows significant crosstalk, and is being remade.
- Remade shortwave IR chip looks promising based on initial crosstalk testing.
- VisNIR sensor chip assemblies will be subjected to tests prior to a decision on which one to use (original or remade).
- The decision will be made in early August.
- The engineering model will not be refit with new focal planes.
- Debra Olejniczak (NGST) inquired about striping issues on MODIS.
- Hassan briefed about test planning:
 - In preparation of the Vis/NIR x-talk performance analysis study requested by the NGST and the IPO, Hassan is working with NPP Characterization Support Team (NCST) members to convert x-talk code from NGST (Steve Mills) into IDL language. NASA is providing a larger x-talk performance analysis than NGST, based on a larger number of granules and products to be tested. Results from this study will support the Use-As-Is decision for VIIRS Vis/NIR focal plane.

- The code was adapted to be used with MODIS bands. This work is coordinated with Bob Woodward and Ron Vogel who will apply the x-talk kernels to MODIS radiance using MODAPS data processing system, and with the NPP Science Team who are providing a set of MODIS granules.

3) CrIS: Joel Susskind, Louis Kouvaris

- Louis reported on instrument status as of May 21:
 - EDU 3 is in bench set configuration with all electrical fixes implemented.
 - NEdN data was collected as the box was being purged; it is not accurate.
 - Clean NedN data to be collected last Friday afternoon.
 - Thermal-vacuum test with Aluminum interferometer is to begin this week
 - CrIS Product Readiness Review (PRR) is scheduled for May 25.
 - CrIS EDU3 Data Review is scheduled for May 26
 - The delivery of the Beryllium interferometer and some other open interferometer issues (about 10), whose solutions won't be verified until the interferometer is refurbished at late summer are a concern.
 - There is FM delivery risk if design changes are required.

4) ATMS: Joseph Lyu.

- Current antenna test measurements were discussed at the L1 telecon on Friday.
- 3 conclusions were made:
 - The ATMS antenna main beams seem to be quite consistent in width over most frequencies, as hoped. The largest exception at 23.8 GHz may have been fixed by addition of a simple absorber near the interior back wall of ATMS. Antenna pattern measurements to be made within the next couple of months are expected to confirm that improvement.
 - Inferred beam efficiencies below ~97 percent are believed due to the limited dynamic range of some antenna pattern measurements. The absorber installed for 23.8 GHz is expected to improve that beam efficiency when it is next measured. A simple means for improving dynamic range exists for channels below 100 GHz, but channels above 140 GHz may be problematic because of weaker transmitter powers there.
 - No explanation was found for high sidelobes noted in many of the patterns at angles in the range 40 - 180 degrees. It was conjectured that the walls of the antenna range might be missing good absorber in some places, or that people or objects were within the range when the measurements were taken. The problem will be studied and changes made before the next round of pattern measurements occurs.
- There will be a second round of measurements in a couple of months.
- The NGES manager (Patel) will visit Goddard this Wednesday, May 26. Pete, Sergey Krimchansky, Jim and Joseph will meet with him.

5) OMPS: John Qu, Ernie Hilsenrath

- John reported on the instrument and algorithm status:
- There was a NPP/OMPS telecon last Monday (May 17).

- There also was another telecon last Tuesday regarding Limb IR filter removal issues. Dave Flittner attended this telecon. Dave also sent John a nice telecon summary and Science Team concerns. John will distribute them to OMPS science team.
- EDU for spacecraft testing is scheduled for July 15.
- John will check if the EDU will have a focal plane or not.

6) NCST: Jack Xiong

- Jack added details on the VIIRS cross-talk analysis
-

7) NPP1: Ron Vogel, Bob Woodward

- MODIS to VIIRS crosstalk simulation: working with Hassan Ouaidrari to generate MODIS Level 1B granules with simulated crosstalk, then run MODIS Level 2 algorithms for the science
- MODIS to VIIRS Proxy data set: code is being developed to generate proxy VIIRS data using MODIS data as input. Held telecon with representatives of NGST to discuss their VIIRS proxy data generator.
- PSG and Project documents are being placed on the web site. Check the web site for the current version of: NPP Weekly Status Report, NPOESS Newsletter, PSG meeting minutes
- Jeff briefed on VIIRS proxy data generators.

8) Direct Broadcast: Patric Coronado

- Patric briefed about Direct Broadcast:

- Provide risk mitigation for IPO' FTS development
- Provide pre-processing tools, 4 SDR's and couple of EDR's for 4 instruments on NPP.
- There was a field-terminal meeting. Commercial sector was presented. Concern was expressed on the way NGST is packaging IDPS -would prefer individual algorithms. .

9) The next PSG is scheduled for Monday, June 14. Electronic reports (in lieu of a 5/31 meeting) are due by assigned PSG members by COB on Friday, June 4.