Attn: Robert Perram
From: Lou Wheatcraft
Subject: DSPSE Status Meeting - 15 March 94
cc: Don Horan
File

A DSPSE status meeting was held at 1000 (EST) at the BATCAVE on 15 March 94 and chaired by Don Horan. This meeting discussed spacecraft activities from 1000 on 3/14/94 to 1000 on 3/15/94. This memorandum briefly summarizes the results of the meeting.

**Engineering**

All spacecraft systems are nominal at this time. However, during the last 24 hours there were three HKP resets. The first reset occurred at the beginning of the SSDR dump of data from orbit 110; the second occurred at the start of orbit 111 mapping; and the third occurred 20 minutes before entering the lunar shadow before starting orbit 112 mapping. Just after the second occurrence, a RF occultation period began which prevented recovery from the reset resulting in the loss of the orbit 111 mapping pass. Following the RF occultation period, the flight software was reloaded and the SSDR data from orbit 110 was downlinked. Because of these problems, the battery was not fully charged when the third reset happened and, thus, the battery pressure decreased to 230 psi by the time the spacecraft exited the shadow. The battery is currently at full charge, orbit 112 mapping is complete and the SSDR downlink of the orbit 112 data is almost complete.

The startracker A lens temperature problem (getting erroneous readings) is still being investigated. The debonded thermistor explanation is considered the most likely.

**Flight Software**

The cause of the HKP reset problem appears to be the patch that was made to correct the time loss during slews problem. This patch was checked out on the test bed for 24 hours before uploading to the spacecraft, but apparently the exact conditions of the orbit were not accurately duplicated on the test bed and possible side effects not adequately evaluated. This morning the problem was made to occur on the test bed. Currently, the patch has been removed and the time is being updated once an orbit. Flight software personnel are analyzing this problem and evaluating other fixes for the time loss problem.

**TAMP**

The spacecraft orbit is very stable (behaving as predicted). The spacecraft is experiencing a 32 minute RF blockage and this time is decreasing. After 3 or 4 more days this blockage will go away. The shadow traversals are now approximately 64 minutes and
will increase to approximately 70 minutes by the end of the month, and will then decrease.

The perilune rotation burn is still scheduled for 26 March. The rotation will be accomplished in two burns; one occurring at approximately 0228 GMT on orbit 163 and the other at approximately 1259 GMT on orbit 165. Orbit 164 will be an 8 hour orbit (rather than the normal 5 hours) and will result in a 75 minute shadow period.

**Sensors**

Sensor operation during lunar mapping continues to be nominal.

The HiRes imaging of Vega was performed to determine if any degradation in the HiRes is occurring. This attempt was successful and the data is being analyzed.

**Mapping Results**

Mapping and data transmission for orbits 108 though 110 has been accomplished and the orbit 112 data transmission is in progress. No data was collected for orbit 111 as discussed above. SMOP and TAM personnel are evaluating scenarios that may allow the missing orbit 111 images to be retaken prior to departing lunar orbit by using oblique imaging, reducing overlaps, etc.

A full moon scan using the startracker was performed on orbit 110 and a composite picture was made available for handout. The moon is illuminated by light reflected from Earth. The image is very good.

**Scheduling**

DSN support has been very smooth. However, there was a fire in a AT&T switching center at JPL which resulted in a temporary loss of 85% of JPL’s communication capability. Commanding through DSN was degraded and the SSDR transmission was received by a backup AFSCN site. We are currently in a 12 hour Ponomkey pass, and communications with JPL should be back up in time for their next scheduled support.

Playbacks from the DSN will be scheduled later in the week on a non interference basis with DSN or DSPSE operations.