A DSPSE status meeting was held at 1000 (EST) at the BATCAVE on 24 February 1994 and chaired by Don Horan. This meeting summarized spacecraft activities from 1000 on 2/23/94 to 1000 on 2/24/94. This memorandum briefly summarizes the results of the meeting.

**Engineering.**

We went through an orbit with the sensor door closed. A stale TLM item on one CRT indicated that the door was open. In order to avoid this problem the mapping scripts have added logic that checks the door status and will open it before mapping, if it is closed. The baseline is that the door will remain open during the entire mapping phase except for an interval of time around the burns.

The spacecraft clock loses about 1 second per day due to slews. The logic that implements the slew seems to be enabling some interrupt that causes the timing error. Work is continuing on the DOTB to isolate the problem. In the interim, the clock will be reset once or twice a day, or as required.

During Earth pointing mode a new state vector was uplinked that caused the spacecraft to rapidly slew to a new pointing direction. This caused three momentum dumps. In the future all state vector uploads will occur only when in inertial pointing.

The RCS fuel pressure is currently at 276 psi. and rising. It should reach 280 psi. by tomorrow. We will have to do a small (6-10m/sec) burn to lower the pressure. Two options were discussed.

1) A burn to move the longitude of the ascending node (about 1/2 degree), or

2) Two out-of-plane burns in opposite directions (which should result in very little net change of the orbit).

The decision was to go for the second option, called the No-Op option. If this problem occurs during mapping, then this is the preferred option since it perturbs the orbit the least. It was felt that we should try this option during our testing phase.

Lt. Col. Rustan requested that the engineering team get together and analyze the data to fully understand this problem and the probability of reoccurrence. In this way we can plan for further occurrences and hopefully optimize the use of the burn, e. g., use it to lower the altitude of periselene when we are too high (we are low now).
TAMP.

Assuming nominal conditions, TAMP has computed the following schedule of burns:

A 19 m/sec maintenance burn is scheduled for 12 March to lower the altitude of perilune from 450 km to 400 km. A large perilune adjust maneuver of 200 m/sec will take place on March 26, which will change the direction of perilune from 30 degrees south latitude to 30 degrees north latitude. A final maintenance burn will occur on April 11.

Sensors

The science team has recommended a camera sequence that will require a little less SSDR space than previously anticipated. This is good news since it looks like the SSDR data dumps will take slightly less than two hours on the high gain antenna.

It is expected that some code changes, as well as table changes, will have to be made to enable the autoexposure to work correctly. Testing is underway.

McDonnell Douglas is concerned that some damage to the laser ranger might have occurred because the heater had not been turned on long enough before the first use at the SRM observation. Lt. Col. Rustan requested that Mike Corson act as the lead in getting the data together. The previous baseline was to turn the heater on 20 minutes prior to use, but McDonnell Douglas says this may not be enough. Currently, the heater is left on. The outcome of the ranging test (see below) showed that the laser seems to work just fine, but the issue of possible reduction in its lifetime needs to be investigated.

Test Results.

- Laser Ranger

Valid and accurate range results were obtained with threshold settings of 4, 3 and 2, although the number of spurious returns increased as the settings were lowered. It was pointed out that the range gate is set to ±100 km. While this was fine for initial testing, further testing should result in it being set to a smaller value that will help reduce the spurious readings.

- Lunar Mapping

Orbit 17 resulted in some fine dark field images because the sensor door was closed. The LWIR pointing tests (toward Messler and Proclus) went fine. Analysis is underway to determine pointing accuracy. On orbit 20 we got good laser ranging data (see above). We did more exposure table testing on Orbit 21, and Orbit 22 was used to rerun the test we had scheduled for orbit 17.

- IR Cameras
Testing is still ongoing concerning the proper exposure setting for the various wavelengths. We get great images for some wavelengths, but images taken at other wavelengths are sometimes overexposed. Testing is underway to further understand the effect of veiling glare and offsets for the IR cameras.

Other Discussion Items.

The scheduler alerted everyone that we will be getting into a four day period (2/26/94 - 3/1/94) of RF blockage during our data transmissions. During this time, the moon will block the transmission of signal during parts of these orbits ranging from 20 minutes to an hour.