

DATE: March 29, 2011

SUBJECT: NSG C-band Scheduling Splinter Minutes

LOCATION: JSC, Regents Park III

ATTENDANCE:

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## **INTRODUCTION**

Mr. Jim Bangerter convened the March 29, 2011, Network Support Group (NSG) C-band scheduling meeting to discuss the scheduling of contingency C-band support for Visiting Vehicles (VV) and review the DRAFT contingency C-band support procedure (no presentation).

## **MEETING**

- A. Mr. Bangerter opened the discussion stating that C-band support to VV will be limited due to budget constraints. Other methods are needed to verify vectors such as GPS.
- B. The first item to be eliminated will be C-band launch support for Soyuz. It was planned that the support will be eliminated by Soyuz-26S, but that schedule was not met. It was recognized that a C-band contingency support procedure is needed.
- C. Soyuz vectors can be provided by the Russians. The Flight Dynamics Facility (FDF) has validated the Russian vectors (Two Line Elements [TLE]) for the past two flights. Mr. Warrant Mitchell stated that the FDF is well prepared to support using the Russian vectors.
- D. It is hoped that the program will sign off on eliminating the Soyuz support by Soyuz-27S.
- E. Other VV support will continue as required. The SpaceX and OSC demo flights will be supported. There have been two Automated Transfer Vehicle (ATV) and H-II Transfer Vehicle (HTV) flights supported and the program is almost ready to discontinue C-band support for ATV and HTV. The next flights are in 2012 and the plan is to not use C-band in support of those flights.
- F. A Tracking and Data Relay Satellite System Network Operations Support Plan (TNOSP) procedure has been drafted and was provided to the Eastern Range (ER) for review. The attendees conducted a review of the procedure.
  1. The procedure contains an email confirmation of a support request. A confirmation is required in the current procedure.
  2. The procedure should contain the sites nominal duty hours (in GMT).
  3. Phone numbers are being worked and will be included.
  4. It was agreed to delete the White Sands Missile Range (WSMR) as its support is for Space Shuttle.
  5. Mr. Robert Jones will work with Mr. David Jones to determine if the Dryden Flight Research Center (DFRC) call up time (during nominal support) is 1 or 2 hours.
  6. Kwajalein operations hours need to be confirmed.
  7. The FDF was added to the procedure.
  8. Sites within view would be called up in the case of a contingency. It was agreed that the Johnson Space Center (JSC) needs to create a procedure to determine which sites to call up. One or two passes could be required. Mr. Joe Aquino stated that there could be a problem determining the site. Mr. Bangerter stated that JSC can talk to the customers and work with them to determine the nominal paths for the missions, so that JSC has an idea of which sites could have a view and are available.
  9. It was agreed that this procedure should be called out the C-band communications contingency procedure.
  10. It was agreed that the ER should be notified prior to a launch to alert them that there could be the possibility the range would be called up. Mr. Mike Gawel stated that the sites would not be on standby as that would have to be funded.

- G. Mr. Gawel stated that the Free Flyer Program Requirements Document (PRD) will have to be updated.
- H. Mr. Brian Jones asked if the Flight Director (FD) will be making a call as a spacecraft emergency. Mr. Bangerter stated that if the launch is off nominal, there is a loss of communications or the fear of the loss of communications, the FD will make the call and the network will activate the contingency support procedure. Funding after the fact will have to be worked. Mr. Aquino stated that the use of spacecraft contingency has a very specific meaning at JSC. It was then that the decision was made to call the procedure the C-band communications contingency procedure. Mr. Bangerter stated that the JSC Ground Controller (GC) will be network's Point of Contact (POC).
- I. The question was raised as to whether the support will be low-speed 46-character support. The Vandenberg Air Force Base (VAFB) high-speed circuits are not in place at all times. Mr. Mike Gawel accepted an action item to determine if all the C-band radar sites will be using the low speed 46 character data (action item 032911-Cband-01). (Editor's Note: Mr. Gawel has responded that all C-band data will be low speed 46 character data. This action item is **CLOSED**.) Mr. Mitchell stated that the FDF can process the low-speed 46-character data.
- J. Mr. Jerry Wolfe stated that there are sites that use the Space Shuttle low-speed circuits. Mr. Bangerter stated that the program needs to make sure that these circuits are not turned down after Space Shuttle fly out. Mr. Robert Jones noted that DRFC has a backup route to via Pt. Magu.
- K. Mr. Aquino stated that retaining C-band support is one of the items on the list of services that need to be retained post Space Shuttle.

**ACTION ITEM REVIEW**

The following action item was assigned at the March 29, 2011, C-band scheduling splinter meeting.

<b>AI No.</b>	<b>Assignee</b>	<b>Action</b>	<b>Response</b>	<b>Status</b>
032911-Cband-01	Mike Gawel/ ER	Determine if all the C-band radar sites will be using the low speed 46 character data.	All C-band data will be low speed 46 character data.	<b>CLOSED</b>

(Original Approved By)  
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