International Space Station (ISS)/Soyuz Very High Frequency (VHF) Status Splinter Group Summary

F. Pifer/SCNS/HSF
fred.g.pifer@nasa.gov

Agenda

- VHF Network Configuration
- Station Support
- Proposed Station Proficiency Simulations
- White Sand Complex (WSC) Upgrades
- Station Equipment Configurations
- Station Major Component Equipment List
- Documentation
  - Tracking and Data Relay Satellite System (TDRSS) Network Operations Support Plan (TNOSP) for the ISS VHF Annex
  - Support Summaries
  - System Readiness Test (SRT) Report
  - VHF Private Communications
  - Soyuz SIC and ID
- Summary
- Backup

International Space Station (ISS)/Soyuz Very High Frequency (VHF) Status

- **Purpose**
  - **Review stations contingency/emergency communications support**
    - **ISS Service Module (SM) on VHF-1 (139.208 MHz up/143.625 MHz down) contingency communications support**
    - **Soyuz on VHF-2 (130.167 MHz up/121.750 MHz down) emergency communications support only**
      - **Monitor for downlink, report voice to Houston Communications Technician (HCT) and initiate uplink for emergency only**

International Space Station (ISS)/Soyuz Very High Frequency (VHF) Status

- **Discussion Highlights**
  - **VHF-1 uplink radiation restricted pending license renewal (in work by Johnson Space center (JSC) Frequency Manager with approval date To Be Determined (TBD)**
    - **Restriction documented by OPN issued 03/19/12; radiation requires Flight Director (FD) or Network Director (ND) approval**
  - **WSC test passes not scheduled below 20 degrees (high noise environment)**
  - **All stations (including WSC) available for emergency support to ISS or Soyuz**

International Space Station (ISS)/Soyuz Very High Frequency (VHF) Status

- **Discussion Highlights - continued**
  - **Discussed Proposed Station Proficiency Simulations**
    - **GC submit VHF schedule request annotated "Emergency Communication Simulation Only"**
    - **Pre-pass briefing will advise station(s) pass is a simulation support (transmitter is configured to dummy load)**
    - **WSC Near Earth Network (NEN) Scheduling Office (SO) will schedule the supporting station(s) as "Emergency Comm C/O Simulation only"**
    - **Stations (Dryden Flight Research Center (DFRC), Wallops Ground Station (WGS), and White Sands Complex (WSC)) will not radiate**
    - **Pass will be conducted in accordance with ISS TNOSP VHF Annex H-90 Interface and Pass/Post-pass Activities**

International Space Station (ISS)/Soyuz Very High Frequency (VHF) Status

- **Discussion Highlights - continued**
  - **Reviewed VHF Private Communications**
    - **Integrated Network elements and VHF stations required to terminate all audio monitoring and recording on prior notice (scheduled support)**
      - **Mission Operations Voice Enhancement (MOVE) system reported to have no provision for canceling recording of digital voice**
  - **Reviewed Soyuz SIC and ID designations assigned as follows:**

– Russian Soyuz TMA-22M/28S	7928	11999C
– Russian Soyuz TMA-03M/29S	7929	12999A
– Russian Soyuz TMA-04M/30S	7930	12999B
– Russian Soyuz TMA-05M/31S	7931	12999C
– Russian Soyuz TMA-06M/32S	7932	12999D

International Space Station (ISS)/Soyuz Very High Frequency (VHF) Status

- **Action Items**
  - **01-Scott Douglas**
    - **Determine where the VHF configuration transverses MOVE.**
    - **Determine what methods can be used to support VHF Private Conversations (e.g., unmapping paths, deleting recorded files, etc.) Note Wallops and DFRC are excepted.**
  - **02-Robert Jones**
    - **Check the DFRC inventory for VHF Test Set spares**
  - **03-Ken Clark**
    - **Track VHF Test Set sparing and provide an inventory/status**