



SN Status



13 September, 2012
D. Glasscock/TO&A





TDRS Fleet Status



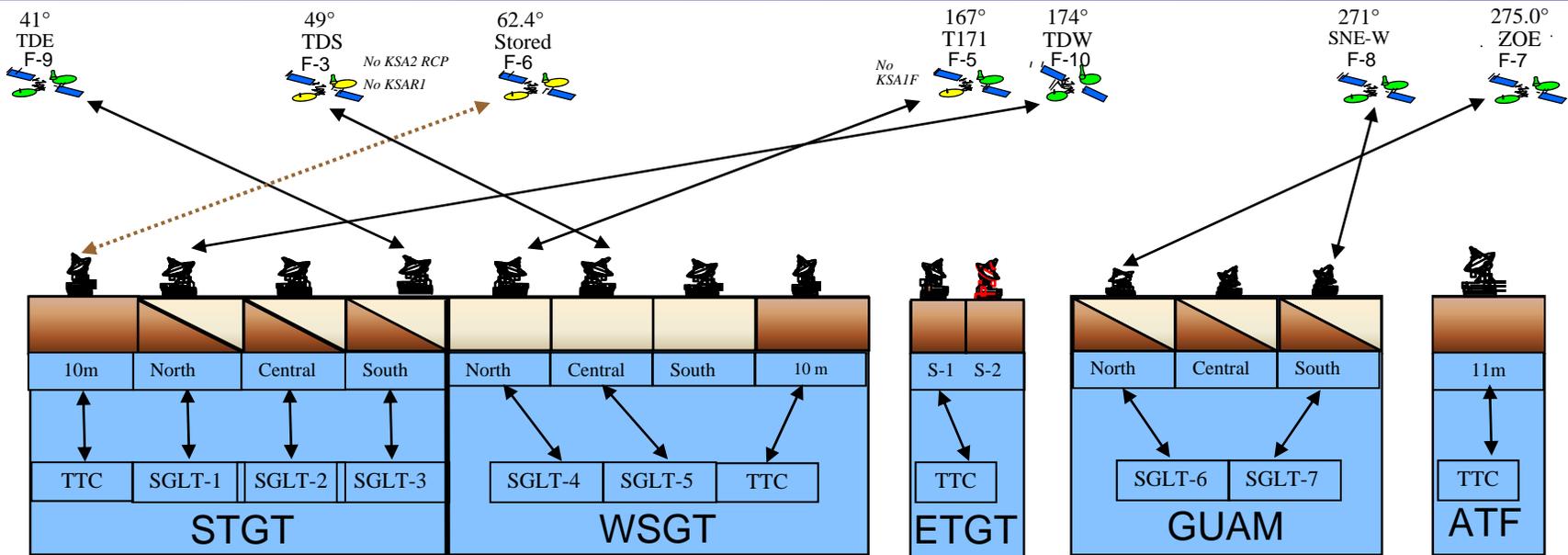
❑ Current TDRS configuration (*September 13, 2012*)

- TDRS-3 (TDS) 49° W (Launched 9/29/88)
- TDRS-5 (171) 167.5° W (Launched 2/8/91)
- TDRS-6 (Stored) 62.4° W (Launched 1/13/93)
- TDRS-7 (TDZ) 275.25° W – Guam ZOE (Launched 7/13/95)
- TDRS-8 (271) 271° W (Launched 6/6/00)
- TDRS-9 (TDE) 41.1° W (Launched 3/8/02)
- TDRS-10 (TDW) 174° W (Launched 12/5/02)
- TDRS-11 (TDK) 150° W (Expected Launch 12/13/2012)





TDRS Constellation Configuration



Upcoming Activities)

- USS-CR SGLT-5 Modifications (TDS SA1 unavailable Nov 2012 – Feb 2013)
- TDRS-K Launch (December 2012)

Legend

RF SGL	
	Ku-TTC
	S-TTC
	S-TTC Temporary Handover
Capability	
	Dual Ku and S-band TTC Support
	Ku-band TTC Support
	S-band TTC Support
Service Status	
	Operational
	Constraints/Stored #
	Failed ##





TDRS Fleet Status



❑ TDRS Eccentricity Management

- Received NASA concurrence to relax the TDRS eccentricity requirements to less than 0.00175 to support ISS antenna limits
- Based on potential issues with ISS, this action was suspended in late March 2010
- Awaiting suspension release from JSC

❑ TDRS-3 (TDS) Space-to-Ground Link dedicated downlink TWTA Failing

- NASA decided to shut off the TDRS-3 SGL KSAR-1 TWTA.
- NAM 1555 KSA1 Return services will no longer be available after 9 April 2012.
- Service will be reactivated to support USS-CR testing through TWTA failure.
- SA1 Antenna will be dedicated to USS-CR testing November 1012 – February 2013





WSC Hardware



SCNS TO-94 WSC Shuttle Unique H/W and S/W Removal

- All SUE removed from GRGT
- All SUE at WSGT and STGT will be removed prior to 12/31/2012
- Manual masking of alerts will be required until software delivery in approx May 2013

USS-CR Implementation

- Work is scheduled to begin December 2012 on SGLT-5 SA1 equipment chains.
- Completion of all work is expected in June 2013

WSC Timing System Upgrade

- All WSC facilities upgraded to GPS timing standard in August 2012





WSC Hardware



❑ ATTCS

- Installation of new S2 antenna is scheduled to begin in December 2012
- All work expected to complete by July 2013

❑ GDIS-RIPE S/W Patch

- WSC is unable to duplicate the anomaly in the test bed.
- WSC created an IPE anomaly on two events with SGLT-6. However, these events occurred randomly over several acquisition scenarios.
- WSC procured a Vendor patch, but this does not correct the issue. Rather, it allows the IPE to automatically recover in the event of an anomaly. Although the patch would reduce the recovery time in the event of anomaly, its performance is unknown and is therefore considered to be high risk at this time.
- SSAR-2 IPE-A and IPE-B are crossed-patched per TSI #1141.





WSC Hardware



❑ MA/IRS

- IRS continues to support MA services in SGLTs 4, 5 and 6.
- IRS is scheduled to be installed in SGLT-1 on 09/27/12.
- SGLT-2 will remain in the legacy configuration for the duration of TDRS-K launch and on-orbit acceptance.

❑ HRDS

- New controller software has been installed on the HRDS at WSGT and GRGT. Installation at STGT is scheduled for late 2012.
- This new software provides GUI control for De-Jitter and provides for an additional capability called Digital Phase-Locked Loop (D-PLL).
- GUI controls for De-Jitter do not change its functionality and is therefore transparent to SN users who require De-Jitter. Likewise, D-PLL is a user-selectable feature which will not impact existing HRDS paths.





WSC Software



SW OPS003/PORTS001

- Delivered to STGT on 05/15/2012 and WSGT on 05/23/2012

SW DAS004 (DASFB001)

- Delivered May 2012, Retracted, and DASFB001 delivered August 2012

SW HST001

- Scheduled for delivery on 10/2012

SW SUE001

- Scheduled for delivery on 05/2013

SW DSAECLP001

- Scheduled for delivery on TBD

SW CMDGEN001

- Scheduled for delivery on TBD

SW UGACA6

- Scheduled for delivery on TBD





TDRS K/L Project



❑ SCNS TO83 Support

➤ Overview

- NASA 454 Contractors, Boeing and General Dynamics, integrating new RCTS, MABE, TTC, and KaEET for next generation satellites
- SCNS supporting integration and test (I&T) activities as well as development of TDRS K specific facilities - Boeing Back-up MCC (BuMCC) and TDRS K TOCC

➤ Schedule

- TDRS K Contractor has completed all Ground I&T for the SN systems and held the Ground Terminal Provisional Acceptance Review. Ground Segment work is complete.
- TDRS K Contractor completed final TDRS K software baseline update. TDRS K software is ready to be merged with the WSC O&M baseline software.
- SN TDRS K TOCC facility currently in use for mission dry-runs and is ready for mission rehearsals; supported the site acceptance test of the Boeing BuMCC facility
- SCNS completed propagating TDRS K training to the WSC; WSC flight operations team ready to support mission rehearsals





WSC VHF



❑ New VHF-1 Tower and Antenna

➤ Overview

- Procure and install a new VHF-1 antenna at WSC.
- Relocate existing VHF-1 ground hardware to site of new antenna.

➤ Remaining Work

- Install Remote Switching and Remote Keying.
- Update Station Local Operating Procedures.
- Install cameras.
- Minor reconfiguration and clean-up of VHF-2 equipment racks.
- WSC provide Masking and RF Antenna Pattern surveys.
- Reconfigure 500 watt High Power Amplifiers (HPA) to 350 watts.

