Sirius FM-5 and Future Satellite Status

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FINAL

SX Trial Ex. 31

FM-5 Schedule

- FM-5 is on target for delivery on 30 Sept. 2008
  - Most subcontractor initial reviews are completed with positive results
  - There are 64 days of margin in the schedule
  - Schedule critical path is delivery of TWTA's
    - SS/L is working with TESAT to compress the delivery schedule and increase the schedule margin to 107 days
- Space Systems/Loral (SS/L) reviews
  - Technical reviews every week
  - Detailed schedule reviews bi-weekly

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FM-5 Technical Risk Issues

- All high risk issues are understood and are being managed proactively
  - [[– [redacted]
    - [redacted]
      - [redacted]
        - »
        - »
      - [redacted]
      - [redacted]]]
  - Li Ion Battery Cell Selection
    - Minor design changes being evaluated by Sirius consultants
  - OMT Final Stage Combining
    - The device must handle more radiated power than has ever been used on-orbit previously
    - Loral is performing a high-power test beginning Sept. 30
  - TWTA Life Test
    - All issues are resolved
  - Satellite Control System (the ground system)
    - There are many issues, but all are close to resolution
    - Internal Sirius vetting in progress

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Future Satellite Study

- **Sirius FM-6/7 Internal Requirements were defined in August**
  - SS/L was given leeway to design satellites to our overall needs.
- **Satellites are virtually identical to FM-5, except for need to fly in high inclination and eccentricity orbits (HIEO) similar to FM-1, 2 and 3.**
  - Most aspects of satellite performance very achievable
  - Mission life and maneuver performance very challenging
- **Two solutions being evaluated**
  - 9 Meter antenna and plasma thrusters will have difficulty meeting mission and operational constraints
  - 5 to 6M antenna and legacy bi-propellant thrusters are also being considered, but have a 1.3dB performance reduction
- **32 month delivery schedules (36 months to beneficial use)**

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