Improved Problem Reporting and Engineering Sustainment Plan

- Implementation of station problem reporting forms across the NASA network of SLR stations to obtain key data and metrics (subsystem/component failures, root cause).
- Engineering & operations email listserv for reporting problems and knowledge sharing.
- Data and metrics feed spare parts posture and engineering solutions for improved reliability and maintainability.
- Station participation and accurate reporting is critical to the overall process.

**Actions:**

- SLR Engineering procured spare parts and repaired laser power supplies and servo power amplifiers for network spares.
- Reviewed obsolete components with high failure rates for upgrade or replacement.

**Conclusions:**

- Increase in problem reporting has led to more effective communication for quicker maintenance and repair.
- Component failure data gives greater insight into sparing and preventative maintenance.
- SLR Engineering continues to review processes to better understand and define how problem reporting data can be used to improve sustainment activities.

**Improvements:**

- Data yield and problems reported have steadily increased over the last two years, with 2018 data yield projected to surpass 2017 even with an increase in problem reporting.

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**SLR Problems by Subsystem (April 2013 - Oct 2018)**

- Laser and Tracking & Mount subsystems accounted for 53% of all problems since April 2013.
- Increase in controller hardware issues in 2018 have led to investigation of potential hardware upgrades.