HST OBSERVATORY STATUS

Status as of 1/31/07   Last changed 1/31/07

Subsystem	Color Code	Summary	Limited-Life Mitigations/ Life-Extension Measures
Science Instruments	**R**	• WFPC2 **Excellent** • ACS **<u>Redundant electronics failed 1/27/07; WFC & HRC unrecoverable</u>** • NICMOS **Excellent** • STIS **Failed 8/3/04**	• **Highly competitive Cycle <u>15</u> and Cycle <u>16</u> Science Programs <u>will maintain a 1st rate science program</u> with the remaining SIs** • **<u>Conversion of ACS science to WFPC2 science being examined</u>** • **<u>Recovery of SBC under investigation</u>**
Electrical Power System	**G**	• **Batteries are aging** • **System-level battery charge capacity increased ~ 6 Ahr from 2004 to 2006** • **<u>SA3 performing very well (~78 of 80 strings)</u>**	• **<u>Software taper charge continues</u>** • **2006 capacity testing completed 8/25/06** • **0.6 amp of array load capacity shorted on 11/19/06**
Pointing Control System	**G**	• **Gyros 1, 2 operating well; Gyro 4 in reserve, and should be used with primary heaters off** • **Gyro 6 in reserve; has a FSW-compensated bias instability** • **FGS-1R Excellent** • **FGS-2R Degraded (Anomalous A-Servo LED suspected)** • **FGS-3 Degraded (Bearing performance sub-par; higher torques required)**	• **Two-Gyro Science Mode ops began 8/29/05** • **FGS-2R acceleration limit K-factor lowered to ameliorate loss of performance. Effectiveness decreases with servo-loop gain loss; remaining margin uncertain. Periodic tests show that performance is slowly worsening** • **FGS-3 use reduced to preserve bearings** • **<u>Hybrid HST 486/FGE acquisition mode being developed</u>**
Data Mgmt System	**G**	• **Excellent**	
Communications	**G**	• **No performance liens** • **On/off cycles for the Multi-access & S Band Single-access transmitters are accumulating**	• **Operations has realized a 38% decrease in SSAT cycles [2044 (7/05-7/06) vs. 3281 (7/03-7/04)]** • **MAT cycle reduction began 2/06. Expect to save 3000 cycles/year (a 33% reduction)**
Thermal Performance	**G**	• **MLI degradation assumed to be continuing; may accelerate during coming Solar Min** • **Slow warming of aft shroud and equipment bays**	• **Tailor attitude and equipment usage as needed** • **Consider conditional limitations on operations in order to retain flexibility** • **Install Bays 5, 7 and 8 NOBLs on SM4**