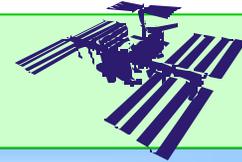


# ISS Research Accommodations Status

17 September 2004 (Data through 31 August 2004) [POC: Dan Hartman/OZ]



## Research

METRIC TYPE	STATUS	ORGANIZATION	ACCOUNTABLE POC	UPDATED
▶ Key Program Performance Indicators		▶ OZ	▶ Hartman	▶ 9/17/04

### DESCRIPTOR

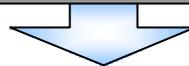
- ▶ The Research Indicator shows the Program's performance in accommodating the required Research Investigations that were established in the L-12-month plan.

### STATUS DETAIL

-  Increment 9: 59% of the number of Originally Planned Investigations were operated or expected to be operated.
-  Increment 9: No research hardware was launched on 15P.
-  Increment 10: 47% of the number of Originally Planned Investigations are expected to be operated.
-  Increment 10: 88% of the number of Originally Planned Investigations will be operated if research upmass and additional crewtime are provided.
-  Increment 11: 85% of the number of Originally Planned Investigations are expected to be operated.
-  Increment 11: 104% of the number of Originally Planned Investigations will be operated if research upmass and additional crewtime are provided.

*Note: During Shuttle stand-down, beginning with Increment 7, most Original Plan Investigations have been postponed due to their dependence on unique Shuttle capabilities (e.g., upmass, power) and crewtime limitations with two crew. Other Investigations not requiring Shuttle capabilities or much crewtime have been accelerated for execution.*

### PERFORMANCE INDICATOR METRICS



**Metrics / Performance Information**

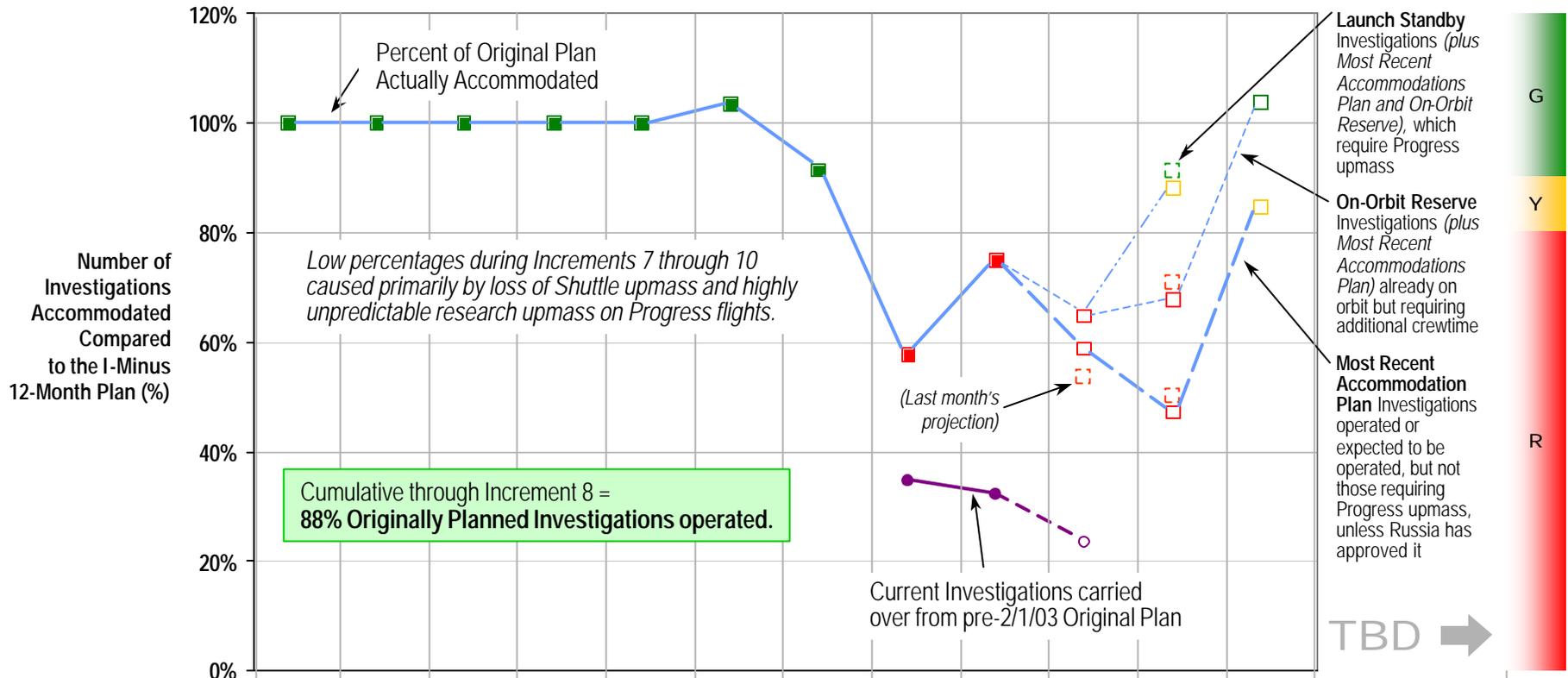
# RESEARCH

U.S. Research Investigations Accommodated, Compared to the I-Minus 12-Month Plan

17 September 2004 (Data through 31 August 2004) [POC: Dan Hartman/OZ]

Status:

RED →



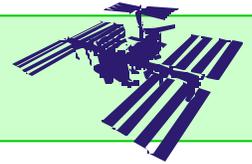
Number of Investigations	Inc 0 (9/2000)	Inc 1 (11/2000)	Inc 2 (3/2001)	Inc 3 (8/2001)	Inc 4 (12/2001)	Inc 5 (6/2002)	Inc 6 (11/2002)	Inc 7 (4/2003)	Inc 8* (10/2003)	Inc 9** (4/2004)	Inc 10** (10/2004)	Inc 11** (4/2005)	Inc 12 (NET 10/2005)	Inc TBD (NET 4/2006)
New	3	3	16	18	11	12	5	3	5	4/4	3/7	16/16		
Continuing	0	1	3	10	21	18	16	12	16	16/18	13/24	10/11		
<b>Increment Total</b>	3	4	19	28	32	30	21	15	21	20/22	16/31	26/27		
Cumulative New	3	6	22	40	51	63	68	71	76	80/80	83/87	99/103		
Cumulative Total	3	7	26	54	86	116	137	152	173	193/195	209/226	235/253		

\* Most Recent Plan  
\*\* Most Recent Plan / Most Recent Plan plus On-Orbit Reserve plus Launch Standby

# RESEARCH: Metrics Definitions, Sources, and Status Levels

17 September 2004 (Data through 31 August 2004)

[POC: Dan Hartman/OZ]



U.S. Investigator: The principal person selected or approved by NASA to conduct a research investigation on-board ISS.

Investigations: Any NASA-sponsored scientific research, commercial research, engineering research, Earth observations, partner research sponsored through NASA, and education experiments or demonstrations conducted on-board ISS. Does not include Risk Mitigation Tests (see *separate definition*).

*Source*: Lead Increment Scientist

Total Number of Investigations to Date: The cumulative number of U.S.-sponsored investigations carried out on ISS to date. This number also includes any international investigations conducted with U.S. research resources as part of agreements with the ISS international partners. If an investigation requires experimentation on more than one Increment, it is designated a continuing investigation and counted only once. The cumulative number is updated at the date of each Shuttle (or Progress/Soyuz) flight to ISS, which is when new investigations are added.

*Source*: The Investigator Master List, maintained by the Lead Increment Scientist, provides the number per Increment. The Increment Scientist also provides the cumulative number per Shuttle (Soyuz/Progress) flight.

Increment Length: The time period that an expedition crew is on orbit. It is measured from their launch date to their ISS undock date, and is documented in the Increment Definition Requirements Document (IDRD) Flight Program Definition matrix.

Continuous U.S. Research Time to Date: The time that the U.S. Laboratory has been continuously supporting research investigations, not counting short-term stoppages lasting only a few hours. The U.S. Lab began supporting research investigations in March 2001, and has done so continuously since then.

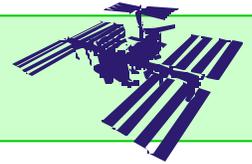
*Source*: The Increment Scientist assisted by investigation payload planners at NASA/Marshall Space Flight Center.

Average Crew Time Per Investigation Through Increment X: The average length of time that all investigations to date used the crew in the conduct of the experiment. This does not include the times for Human Research Investigations on the crew members.

Number of Investigations Planned Per Increment: The number of U.S.-sponsored investigations planned 12 months in advance for an Increment, including both new and continuing investigations occurring during that Increment.

# RESEARCH: Metrics Definitions, Sources, and Status Levels

17 September 2004 (Data through 31 August 2004) [POC: Dan Hartman/OZ]



## Number of Investigations Operated Per Increment: (N<sub>A</sub>)

The number of U.S.-sponsored investigations actually carried out during an Increment, at least partially, including both new and continuing investigations.

*Source:* ISS Research Accommodations list, maintained by the Lead Increment Scientist.

Number of Investigations – Original Plan: (N<sub>O</sub>) The number of U.S.-sponsored investigations planned for the Increment approximately 12 months prior to the start of the Increment, including both new and continuing investigations during that Increment.

Number of Investigations – Replan: (N<sub>R</sub>) The number of U.S.-sponsored investigations for the Increment replanned in April 2003 after the Columbia STS-107 accident, including both new and continuing investigations during that Increment.

Number of Investigations – Most Recent Accommodation Plan: (N<sub>E</sub>) The number of U.S.-sponsored investigations for the Increment that have been approved and included in the Final Integrated On-Orbit Summary (OOS) to be operated in the Increment; also includes both new and continuing investigations during that Increment.

Number of Investigations – Launch Standby: (N<sub>S</sub>) The number of additional U.S.-sponsored investigations for the Increment that have been requested for manifesting on Soyuz or Progress, but are not yet approved or manifested by the Federal Space Agency; includes both new and continuing Investigations during that Increment.

Number of Investigations – On-Orbit Reserve: (N<sub>R</sub>) The number of additional U.S.-sponsored investigations that have all the necessary equipment on orbit and have been requested for scheduling, but are not scheduled in the Final Integrated OOS due to crewtime limitations; includes both new and continuing Investigations during that Increment.

Risk Mitigation Tests: Engineering and Equipment Tests of research payload hardware conducted on-board ISS to improve the probability of success of a future investigation. Risk Mitigation Tests are not included under the definition of Investigations (*see separate definition*).

*Source:* ISS Research Accommodations list, maintained by the Lead Increment Scientist.

Current Investigations Carried Over from the Original Plan (N<sub>OP</sub>): The number of U.S.-sponsored investigations that specifically appear in both the Original Plan and the Post-2/1/03 Replan.

Percent of Original Plan Accommodated (Actual or Scheduled) (P<sub>O</sub>)

$$P_O = 100 \times (N_A \text{ or } N_E) / N_O$$

Scheduled, including Launch Standby (P<sub>S</sub>)

$$P_S = 100 \times (N_E + N_S) / N_O$$

Percent of Current Investigations Carried Over from the Original Plan (P<sub>OP</sub>)

$$P_{OP} = 100 \times N_{OP} / N_O$$

## **Status Level Definitions**

Number of Investigations Operated Per Increment

**Green:** 90% or more investigations operated.

**Yellow:** 80-90% of investigations operated.

**Red:** Less than 80% of investigations operated.