National Aeronautics and Space Administration

International Space Station Advisory Committee

March 22, 2007
NASA Headquarters
Washington, DC

MEETING REPORT

Original signed by:

Lawrence A. Kenyon
Executive Secretary

Original signed by:

Thomas P. Stafford
Chairman

NASA INTERNATIONAL SPACE STATION ADVISORY COMMITTEE

March 22, 2007
NASA Headquarters
Washington, DC

MEETING REPORT

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Mr. Larry Kenyon, Executive Secretary of the NASA International Space Station (ISS) Advisory Committee (AC), welcomed the participants and called roll. He explained that the Chairman, Lt. Gen. Thomas P. Stafford, USAF (Ret.), was called away on an urgent matter and asked Advisory Committee Member Charles Daniel to preside over the meeting.

Dr. Daniel gave the following remarks:
Good afternoon and thank you for participating in this open meeting of the NASA International Space Station Advisory Committee.

I would like to read the results of the Committee's recent fact- finding trip to Moscow where we met with the Russian Advisory Expert Council on the Expedition 15 mission. This letter was drafted by the members of the Joint Commission for submission to the Heads of Agency.

"As directed by our two Agencies, the NASA International Space Station Advisory Committee (AC) - Federal Space Agency Advisory Expert Council (AEC) Joint Commission (AC-AEC) reviewed the safety and operational readiness of the International Space Station (ISS), the flight readiness of the Expedition 15 and Visiting 12 Crews, and the Russian and U.S. flight control teams' preparedness to accomplish the Expedition 15 mission. Additionally, the AC-AEC reviewed preparations for the Expedition 14 and Visiting 12 Crews' landing and recovery from the landing site, and reviewed the readiness of Soyuz TMA-10 for launch and Soyuz TMA-9 for landing.

The AC-AEC Joint Commission finds that:

- *The Expedition 15 Crew and Visiting Crew 12 have successfully completed their training in full and show high confidence for successful completion of their examinations.*
- *Based on the results of their medical examinations, the crew members are considered ready for their mission.*
- *In addition, the Russian and U.S. flight control teams are prepared to support the Expedition 15 mission.*
- *The ISS is safe and operationally ready to support the crew for the duration of their mission. Finally, all vehicle and operational reviews to date have indicated that all mission elements are ready to support the safe ascent of the Expedition 15 Crew and Visiting Crew 12 on Soyuz TMA-10, and the safe descent and landing of the Expedition 14 Crew and Visiting Crew 12 aboard Soyuz TMA-9.*

The findings of this report resulted from meetings in Moscow, Russia, March 12 – 14, 2007, at TsNIIMash where the Joint Commission received briefings on the following topics:

Expedition 15 Flight Program;
Space Shuttle Program Status;
Russian Segment and U.S. On-Orbit Segment System (USOS) Status;
Real-Time Operations Management Team Readiness;
Mission Control Center (MCC-M, MCC-H) Readiness;
Medical Operations and Environmental Monitoring;
Expedition 15 EVA Plans;
Soyuz TMA-9 Readiness for Re-entry;
Soyuz TMA-10 Flight Readiness;
Crew Training and;
Federal Aeronautical Navigational Service (FANS) Readiness (Search and Recovery Mission) status.

In addition, due to the upcoming launch of the Automated Transfer Vehicle (ATV), the Joint Commission received an ATV Mission Status briefing.

The STS program is currently addressing damage to the foam on the External Tank (ET) caused by hail. Repairing damage to the ET may be accomplished at Kennedy Space Center (KSC) if the damaged areas are small, but may require return to the Michoud Assembly Facility (MAF) if the areas extend beyond the size allowed for approved, hand-held foam repair processes. The launch date is still uncertain but is expected to be no earlier than April 23, 2007, and no later than June 2007. The launch date change will impact increment crew tasking and Progress re-supply vehicle launch schedules.

The Control Moment Gyro (CMG) #3 failure analysis and bearing redesign plan was presented to the Joint Commission. A replacement CMG will be delivered to the ISS on STS-117 and CMG #3 will be replaced on a future Extravehicular Activity (EVA) and returned via Shuttle to be evaluated for damage mechanism.

Final processing of Soyuz TMA-10 will be completed at Baikonur. The planned launch of Soyuz TMA-10 is scheduled for April 7, 2007. The Joint Commission believes Soyuz TMA-10 will be ready for launch after final checkout at Baikonur. The Joint Commission also believes that Soyuz TMA-9 is ready to return the Expedition 14 Crew and Visiting Crew 12.

The transfer of the Search and Recovery Mission to the Federal Aeronautical Navigational Service (FANS) requires different financial and contractual procedures. These new procedures are being processed and should be completed within one to two weeks of this meeting. Because most of the people and resources involved in the launch and recovery operations are the same as before, confidence in their performance remains high.

There are no medical constraints for the Expedition 15 mission and the ISS is environmentally safe and operationally ready to support crew health and efficiency for the duration of their mission.

The Institute of Biomedical Problems (IBMP) notes that during the past three increments, the levels of air contaminants containing off-gassing products and dust have increased as a result of docked vehicles and cargo. These levels have periodically exceeded the capability of air scrubbers to maintain standards. Particular attention should be paid to contaminant levels in the future as ISS volume, crew, and visiting vehicles increase.

The Joint Commission has concluded that the Expedition 15 Crew is well trained and ready for their mission. While not an immediate impact to Expedition 15, the Joint Commission did discuss the impacts of increasing the ISS crew size from three to six members in late 2008 or early 2009. In preparation for this increase in crew size, it is expected that training preparations will need to occur beginning July 2007. The Joint Commission will request further information on the plans and resources to accommodate this increase in crew size. After reviewing these presentations, the Joint Commission will report its findings to you.

The flight control teams and facilities for both Moscow and Houston are fully coordinated and ready to control and support the flight of Expedition 15.

ATV briefings were presented to the Joint Commission from RSC-Energia experts on Russian Segment test, verification, certification, software, flight management systems, and joint operations. ATV crew training was presented by experts from Gagarin Cosmonaut Training Center (GCTC). These and previous ATV briefings resulted in numerous test, verification, operational and training issues. Since the current ISS Program Plan has the ATV 1 now scheduled to launch no earlier than (NET) September, 2007, it is the Joint Commission's belief that further, more in-depth reviews should occur well in advance of the launch date. It is further recommended that this review be hosted by the European Space Agency (ESA) representatives, with Russian participation provided as required. After reviewing these presentations, the Joint Commission will report its findings to you regarding ISS safety during ATV operations.

Are there any objections to our findings? There were no objections.

Fine, then based on our fact-finding meetings, the full Advisory Committee and Joint Commission concur with the assessment outlined here today.

In performing our assessment, the Joint Commission appreciates the full and open discussion of information presented by the subject matter experts. We will continue to follow the mission prior to the anticipated launch of the Expedition 15 Crew and Visiting Crew 12 scheduled to occur no earlier than April 7, 2007. If we should develop any concerns as we proceed toward launch, we will contact NASA and the committee members immediately.

My best wishes to the crew and thank you all again for the expertise you bring to our committee. I'll turn this over to Larry to wrap things up.

Executive Secretary Larry Kenyon expressed his appreciation to the Committee for their hard work on this assessment and the meeting was adjourned at 1:15 p.m.

Attachment A

NASA International Space Station Advisory Committee
March 22, 2007
NASA Headquarters
Washington, DC

Committee Membership

Chairman

Lt. Gen. Thomas Stafford, USAF (Ret.)

Members

Col. James Adamson, U.S. Army (Ret.)
Mr. Percy Baynes
Dr. Kathy Clark
Mr. Joseph Cuzzupoli
Dr. Charles Daniel
Col. Chris Hadfield, Canadian Air Force (Ret.)
Mr. J. Milt Heflin
Dr. Daniel Heimerdinger
Maj. Gen. Ralph Jacobson, USAF (Ret.)
Mr. Jim Lloyd
Dr. Ronald Merrell
Mr. David Mobley
Dr. Shawn Rahmani

Technical Advisors

Maj. Gen. Joe Engle, USAF (Ret.)
Maj. Bob Maiberger, U.S. Army (Ret.)

Executive Secretary

Mr. Larry Kenyon

Asst. Executive Secretary

Ms. Holly Stevens

Attachment B

NASA International Space Station Advisory Committee
March 22, 2007
NASA Headquarters
Washington, DC

Meeting Attendees

Committee Members
Mr. Percy Baynes – via teleconference
Dr. Charles Daniel – via teleconference
Col. Chris Hadfield – via teleconference
Mr. Milt Heflin – via teleconference
Dr. Dan Heimerdinger – via teleconference
Mr. Jim Lloyd
Mr. David Mobley – via teleconference
Dr. Shawn Rahmani – via teleconference

Stafford Advisory Committee Technical Advisors
Maj. Gen. Joe Engle – via teleconference
Maj. Bob Maiberger – via teleconference

Advisory Committee Executive Secretary
Mr. Larry Kenyon

Advisory Committee Asst. Executive Secretary
Ms. Holly Stevens – via teleconference

NASA
Glen Asner - NASA Headquarters, History Office
Meredith McKay - NASA Headquarters, Office of External Relations
John Yembrick - NASA Headquarters, Public Affairs Office

Others
Valer Gergely - Voice of America
Tibor Purger - HUNG TV
Frank Slazer - United Launch Alliance
Traci Watson - USA Today