HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)
Astronauts: Those Who Make it Happen (5)

Author: Mr. Akira Tsuchida
Japan Aerospace Exploration Agency (JAXA), Japan, tsuchida.akira@jaxa.jp

Mr. Yoshio Toukaku
Japan Aerospace Exploration Agency (JAXA), Japan, toukaku.yoshio@jaxa.jp
Mr. Takayoshi Nishikawa
Japan Aerospace Exploration Agency (JAXA), Japan, nishikawa.takayoshi@jaxa.jp
Ms. Amie Allison
Japan Manned Space Systems Corporation (JAMSS), United States, aallison@jamssamerica.com
Ms. Kanako Daigo
Japan Manned Space Systems Corporation, Japan, daigo.kanako@jamss.co.jp
Mr. Yuichiro Nogawa
Japan Manned Space Systems Corporation, Japan, nogawa.yuichiro@jamss.co.jp

INTEGRATED ONBOARD CREW AND INTERNATIONAL CONTROL CENTERS OPERATIONS IN CASE OF CONTINGENCY AND EMERGENCY SITUATIONS

Abstract

The International Space Station (ISS) is being operated by six control centers distributed around the world and by onboard astronauts. Japan has joined this ISS program as one of the 15 international partners (IPs) and operates the Japanese Experiment Module called 'KIBO' ('Hope' in Japanese) from the Tsukuba Space Center in Japan. Nominally, the Japan Aerospace Exploration Agency (JAXA) Flight Control Team, called JFCT, operates KIBO systems and payload operations. However, if the ISS encounters a contingency or emergency situation, all 6 control centers focus to recover from this anomalous situation with onboard astronauts. This manuscript provides an overview of KIBO operations preparation for contingencies and emergencies on ISS such as "Caution and Warning classification", "Telemetry selection", "Procedure development", "Determination of roles and responsibilities between onboard astronauts and ground", "Determination of roles and responsibility between IP control centers", "Training on the ground", and "Onboard training (OBT)". This manuscript also provides recommendations based on ISS lessons learned for future manned spacecraft (LEO, GMO, and interplanetary vehicles)