

HUMAN SYSTEM RISK CHANGES IN 2021

Mary Van Baalen¹ W. Anton², E. Connell³ D. Buckland^{1,4}

¹NASA Johnson Space Center, 2101 NASA Parkway, Houston TX 77058 - mary.vanbaalen-1@nasa.gov

²KBR, 2450 NASA Parkway, Houston, TX 77058 – wilma.anton@nasa.gov

³Leidos, 2450 NASA Parkway, Houston, TX 77058 – erin.s.connell@nasa.gov

⁴ Duke University, Durham, NC 27710 dan.buckland@nasa.gov

ABSTRACT

The Human System Risk Board (HSRB) has the overall responsibility for tracking the evolution of the top ~30 human system risks that it has identified to be associated with human spaceflight. As part of this process, the Board is charged with maintaining a consistent, integrated process to mitigate those risks, and developing evidence-based risk posture recommendations. Risks are re-evaluated in a Continuous Risk Management (CRM) process. This session will summarize the risk posture changes that have occurred in the last year and what high level research, performance, and epidemiologic data have informed those changes. Human System Risks updated in 2021 include: Dynamic Loads, Sensorimotor, EVA, Crew Egress, Behavioral Medicine, Electrical Shock, Human System Integration Architecture (HSIA), Toxic Exposure, Bone Fracture, Cardiovascular, Medical Conditions, Renal Stone, CO2 Exposure, and Pharmacology.