EXMC SYSTEMS ENGINEERING STATUS

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The Exploration Medical Capability (ExMC) Element within the Human Research Program (HRP) applies systems engineering principles along with the use of Model-Based Systems Engineering (MBSE) tools to identify and communicate the requirements for medical and crew health and performance (CHP) systems. The MBSE approach to medical system design offers a paradigm shift toward greater integration between the vehicle and a human health and performance system. In addition, the MBSE tools provide a means in which systems engineers can develop different views of the relationships between and among requirements, standards, functions, and capabilities, to name a few, that is best suited for a user's objectives. Applying these tools, ExMC Systems Engineering (SE) developed three MBSE models in support of multiple projects in fiscal year (FY) 2023. These included the Long-Duration Lunar Orbit and Lunar Surface (LDLOLS) Medical System Foundation, Earth-Independent Medical Operations (EIMO) medical system ConOps, and the 2023 Artemis CHP System model. This talk will provide a high-level overview of what the ExMC SE team has accomplished since the last Investigators' Workshop, an introduction to upcoming SE talks, and the ongoing systems engineering work.