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Poster

Understanding and accounting for natural space environments is crucial for successful space exploration missions. The Design Specification for Natural Environments (DSNE) details the natural environment conditions that NASA Exploration Systems Development(ESD) programs must address. The Human Landing System (HLS) is required to meet all safety, functional, performance, utilization, and operational requirements during and after exposure to the natural environments defined in DSNE.

Natural environments refer to conditions that exist prior to or regardless of human or robotic activity. These include ionizing radiation, meteoroids, orbital debris encountered during Earth orbit and departure phases, plasma interactions, natural thermal, and gravitational environments. Determining the effects of these environments is critical for ensuring the robustness and reliability of space systems.

The Natural Environments Branch at NASA's Marshall Space Flight Center is the Office of Primary Responsibility (OPR) of the DSNE.

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