NCRP Releases Report No. 153,
Information Needed to Make Radiation Protection Recommendations for Space Missions Beyond Low-Earth Orbit

National Aeronautics and Space Administration (NASA) astronauts on exploration missions of long duration beyond low-Earth orbit (LEO) (*e.g.*, Mars) face exposures to ionizing radiation levels that may exceed those routinely received by terrestrial radiation workers, or even those faced by crews in near-Earth spacecraft, such as the Space Transport Shuttle (STS) and International Space Station (ISS). Radiation fields encountered include the galactic cosmic radiation background, sporadic solar-particle events, energetic protons and electrons during traversals of the Van Allen inner and outer radiation belts, and exposure to possible onboard radioactive sources used for power generation, propulsion, medical testing, and instrument calibration.

The acceptable levels of risk for space exploration beyond LEO have not been defined at this time and need to be dealt with before sending manned missions to the moon or to deep space such as a mission to Mars. In response to this need the National Council on Radiation Protection and Measurements (NCRP) has released Report No. 153, *Information Needed to Make Radiation Protection Recommendations for Space Missions Beyond Low-Earth Orbit*.

This Report is a continuation of NCRP Report No. 132, *Radiation Protection Guidance for Activities in Low-Earth Orbit*, which provided guidance on limitation of exposure to ionizing radiation in LEO as encountered by personnel on STS and ISS missions. Report No. 153 addresses space radiation physics and transport, dosimetry, biology, risk assessment methodology, and identifies and describes major scientific information that is needed by NASA to make radiation protection recommendations for space missions beyond LEO. Current space radiation guidelines pertain only to missions in LEO and are not considered relevant for missions beyond LEO.

The Report is available from the NCRP website, http://NCRPpublications.org, in both soft- and hardcopy formats. For additional information contact David A. Schauer, ScD, CHP at schauer@NCRPonline.org, 301.657.2652 (x20) or 301.907.8768 (fax).

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