

National Aeronautics and Space Administration
Headquarters
Washington, DC 20546-0001



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June 5, 2020

Reply to Attn of: Office of Safety and Mission Assurance

TO: Chief, Safety and Mission Assurance
THRU: Director, Safety and Assurance Requirements Division

FROM: Nuclear Flight Safety Assurance Manager

SUBJECT: Impacts of NSPM-20 on NASA Nuclear Flight Safety Requirements and Practices

As you are aware, National Security Presidential Memorandum (NSPM-20), “Presidential Memorandum on Launch of Spacecraft Containing Space Nuclear Systems,” was issued in August 2019. Amongst its impacts, this Presidential Memorandum supersedes the National Security Council Presidential Directive-25 (NSC/PD-25) of December 14, 1977 (as modified May 17, 1995, and May 8, 1996), which in turn significantly influenced some aspects of NASA’s nuclear flight safety requirements and practices. The Office of Safety and Mission Assurance is working with other NASA and interagency stakeholders to update the NASA Procedural Requirements (NPR) governing nuclear flight safety, a key focus of which is to re-align NASA’s requirements and practices with those specified in NSPM-20.

In the interim, we wish to document some areas where NASA is following the requirements of NSPM-20, rather than conflicting (and now outdated) guidance in NPR 8715.3D, “NASA General Safety Program Requirements,” Chapter 6, “Nuclear Safety for Launching of Radioactive Materials.” Doing so provides us with a stronger documentary basis, until the time at which the NASA guidance documents have been updated. The relevant clarifications are as follows:

1. Review body – Whereas NPR 8715.3D describes an ad hoc interagency nuclear safety review panel (INSRP), NASA has empaneled, and will administer, a standing interagency nuclear safety review board (INSRB), in accordance with NSPM-20.
2. Reporting to the Office of Science and Technology Policy (OSTP) - Whereas NPR 8715.3D indicates that launches of nuclear material will be reported to OSTP for any mission having an A2 mission multiple of 0.001 or higher, NSPM-20 directs agencies to only report those missions with an A2 mission multiple of 1,000 or higher.¹

¹ A2 mission multipliers are discussed in Appendix D of NPR 8715.3D.

3. Required level of review and applicable reports – Whereas NPR 8715.3D requires an INSRP review and associated safety evaluation report (SER) for missions with A2 mission multiples of 1,000 or higher, NSPM-20 supersedes the NPR requirements, by creating 3 Tiers with associated criteria. Only Tier II and III missions require an INSRB review and associated SER.
4. Required approval/concurrence – Whereas NPR 8715.3D requires the NASA Administrator to request approval from the Director of OSTP for all missions with an A2 mission multiple of 1,000 or higher, NSPM-20 only requires this level of approval for Tier III missions. The net effect is that some missions previously requiring authorization by the President, can now be authorized by the NASA Administrator. The Mars 2020 mission presently falls within this circumstance.

OSMA will continue to update NASA guidance to implement these and other relevant changes, and we will continue to work with our interagency partners to promote consistency and effectiveness in all matters relevant to nuclear flight safety.

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