7510-13

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

National Environmental Policy Act; Mars 2020 Mission

NOTICE: [20-003]

AGENCY: National Aeronautics and Space Administration

ACTION: Notice of Availability for the Final Supplemental Environmental Impact Statement (Supplemental EIS) for implementation of the Mars 2020 mission.

SUMMARY: Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (CEQ NEPA Regulations), and NASA's procedures for implementing NEPA, NASA announces the availability of the Final Supplemental Environmental Impact Statement for the Mars 2020 Mission (Supplemental EIS). NASA has prepared the Final SEIS which, in accordance with CEQ NEPA Regulations, provides responses to comments and incorporates associated changes resulting from the public and agency review of the Draft SEIS published in October 2019. The Final SEIS provides updated information related to the potential environmental impacts associated with the proposed Mars 2020 mission. The United States Air Force and Department of Energy (DOE) served as Cooperating Agencies.

FOR FURTHER INFORMATION: Contact Mr. George Tahu by electronic mail at mars2020-nepa@lists.nasa.gov or by telephone at 202-358-0016.

SUPPLEMENTARY INFORMATION: The updated information is pertinent to the consequence and risk analyses of potential accidents which could occur during the launch phases of the mission. Although the probability of such accidents occurring is extremely small, it is possible that under certain conditions an accident could result in a release of plutonium dioxide from the Multi-Mission Radioisotope Thermoelectric Generator (MMRTG) into the environment. The MMRTG is a critical component of the Mars 2020 rover; it would enable the Mars 2020 rover mission to undertake a much broader scope of

scientific discovery by providing a continuous supply of electrical power and temperature control to the Mars 2020 rover while on the surface of Mars. The Mars 2020 mission would launch the spacecraft onboard an Atlas V launch vehicle from the Cape Canaveral Air Force Station (CCAFS), Brevard County, Florida during the summer of 2020. Additional information about the mission may be found on the Internet at: https://mars.nasa.gov/mars2020/.

Per CEQ NEPA Regulations a decision on a course of action will be made after the 30-day Final SEIS waiting period, to conclude 30-days from the date of this Federal Register publication. Although NEPA does not require responses to public comments received during this period, comments received will be considered in determining final decisions. Any decision will be documented in a Record of Decision that will be made available to the public. The Final SEIS is available for download at https://www.nasa.gov/feature/nepa-mars-2020-mission. Because there were no substantive changes to the document from Draft SEIS to Final SEIS, paper copies will be made available by request only. Comments on, or requests for paper copies of, the Final SEIS may be made by electronic mail at mars2020-nepa@lists.nasa.gov, by telephone at 202-358-0016, or in writing to: Mr. George Tahu, Planetary Science Division – Science Mission Directorate, Mail Suite 3E46, NASA Headquarters, Washington, DC 20546-0001. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

NASA's proposed Mars 2020 mission would use the proven design and technology developed for the Mars Science Laboratory mission and rover (Curiosity) that launched from CCAFS in November 2011 and arrived at Mars in August 2012. NASA has selected a high priority, scientifically important landing site based upon data from past and current missions. The rover is equipped with new scientific instrumentation that would: (a) Characterize the geological processes and history of an astrobiologically relevant ancient environment on Mars; (b) within the selected geological environment, assess the past

habitability of the landing region and search for evidence of past life; (c) assemble a scientifically selected, well-documented, cache of samples for potential future return to the Earth; (d) further the preparation for future human exploration of Mars; and (e) demonstrate improved technical capabilities for landing and operating on the surface of Mars to benefit future Mars missions.

On September 11, 2013, NASA issued a Notice of Intent to prepare an Environmental Impact Statement (EIS) for the Mars 2020 mission. NASA prepared the EIS and issued the Final in November 2014. NASA evaluated several alternatives related to the Mars 2020 rover's power source. NASA identified use of the MMRTG as its preferred alternative to meet the mission's electrical, thermal, and operational requirements. Waste heat from the MMRTG would be used for temperature control of the rover electronics, science instruments, and other sensitive components. The MMRTG is identical to the power supply that has been used with success on the Mars Curiosity rover. Alternatives to the Proposed Action addressed in the 2014 Final EIS included: (1) the use of alternative sources of on-board power and heat (including solar energy); and (2) the No Action Alternative. The 2014 Mars 2020 Final EIS also addressed the purpose and need for the proposed Mars 2020 mission and the environmental impacts associated with its implementation. The environmental impacts associated with the normal launch of the mission were addressed, as were the potential consequences of launch related accidents. NASA issued its Record of Decision (ROD) for the Mars 2020 mission on January 27, 2015. The ROD adopted Alternative 1 as the preferred alternative. Alternative 1 required NASA to complete preparation for and implement the proposed Mars 2020 mission during July - August 2020, or during the next available launch opportunity in August through September 2022, and to operate the mission using a MMRTG that would continually provide heat and electrical power to the rover's battery. Since 2015, NASA has significantly advanced preparations for the Mars 2020 mission and selected the Atlas V as the launch vehicle. The Mars 2020 Final EIS discussed Incomplete and Unavailable Information which would be addressed in the future through more detailed risk analyses conducted as part of NASA's and the DOE's ongoing radiological safety review programs. These analyses were completed in 2019 and accounted for the Atlas V as the chosen launch vehicle (that was selected on August 25, 2016, after the Mars 2020

Record of Decision on January 27, 2015), up-to-date safety test information, and updated analytical models.

NASA policy for implementation of NEPA is found in NASA Procedural Requirements 8580.1A (NPR). The NPR requires preparation of a supplemental NEPA document when significant new information relevant to environmental concerns that bear on the proposed action or its impacts is discovered. Since NASA issued the 2014 Final EIS and 2015 ROD, the updated results from the risk and consequence modeling have become available for NASA's consideration. NASA has determined that the purposes of NEPA will be furthered by preparation and issuance of a SEIS.

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