NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[NOTICE: 19-054]

National Environmental Policy Act; Mars 2020 Mission

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of Intent to Prepare a Supplemental Environmental Impact Statement (SEIS) 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, and NASA's procedures for implementing NEPA, NASA intends to prepare a supplement to the Final Environmental Impact Statement for the Mars 2020 Mission (Supplemental EIS). The Supplemental EIS will provide updated information related to the potential environmental impacts associated with the proposed Mars 2020 mission. 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 highly unlikely, 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). 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 spacecraft would launch 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/.

DATES: A Notice of Availability (NOA) will be published in the Federal Register once NASA has completed drafting the SEIS. The NOA will provide a 45-day public comment period.

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: 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 would select a high priority, scientifically important landing site based upon data from past and current missions. The rover would be 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. It was anticipated that the electrical, thermal, and operational requirements of the rover would require a radioisotope power source (MMRTG) using plutonium-238. This single MMRTG would provide adequate power to operate the rover, similar to the Mars Curiosity rover. Some of the waste heat from the MMRTG would be used for temperature control of the rover electronics, science instruments, and other sensitive components. Alternatives to the Proposed Action addressed in that EIS included: (1) the use of alternative sources of on-board power and heat (including solar energy); and (2) the No Action Alternative. The Mars 2020 EIS also addressed the purpose and need for the proposed Mars 2020 mission and the environmental impacts associated with its implementation. The environmental impacts of the mission associated with the normal launch of the mission were addressed, as were the potential consequences of accident situations. NASA issued the Mars 2020 Final EIS in November 2014, and on January 27, 2015, NASA issued its Record of Decision (ROD). The ROD adopted Alternative 1 as the preferred alternative. Alternative 1 required NASA to complete preparations

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 Department of Energy's (DOE) ongoing radiological safety review programs. These analyses were completed in 2019 and accounted for 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 a substantial change in information relevant to environmental concerns that bear on the impacts of the proposed action is discovered. Since NASA issued the 2014 Final EIS and 2015 ROD, updated results from DOE conducted 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 an SEIS.

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