

REQUESTOR INFORMATION:

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SMD research discipline alignment: Planetary Science

The objective of this NOI is to include 3 select digitized United States of America Heritage Documents into the electronic memory aboard the SMD NASA Science/Technology Platform Satellite (NSTP-Sat), which may eventually orbit the Earth or otherwise be assigned to travel into outer space.

Purposes for including these selected USA Heritage Documents are:

- a) to be an acknowledgement of the fact that NASA has been established and primarily funded by the government and taxpayers of the USA. The results have been achievements of many scientific goals for the benefit of everyone on Earth.
- b) to commemorate and preserve the selected founding Documents of the USA in the 18th century and its continuance into the 21st century. These key Documents had guided this new country's people.
- c) to recognize that NASA's funded scientific achievements have been made possible over the years by thousands of people from many countries, who in the USA or elsewhere on Earth, contributed their talents, time, lives, and hard work to the missions of NASA.

The selected USA Heritage Documents in digitized form (and their sources) are:

- 1) Declaration of Independence, 1776. (Source: The U.S. National Archives and Records Administration, www.archives.gov/founding-docs/declaration) This Declaration showed the resolve of the colonial people for independence and formation of a new country, and for human rights which we still embrace today.
- 2) Constitution of the USA, 1789, and attachment of all Amendments as of 2017. (Source: The U.S. National Archives and Records Administration, www.archives.gov/founding-docs/constitution) Since the Constitution of the USA first came into force, there have been 27 amendments to meet the changing needs of our nation, beginning with the Bill of Rights to protect individual justice and liberty, as well as to continue to place restrictions on the powers of government.

3) Book used by the first President of the USA, George Washington, 1789, to solemnly affirm his Constitution-specified oath of office with his hand placed upon it, the King James Version of the Bible. (Source: Listing of Public Domain KJV Bibles, version using American English, www.stjohns1.org/portal/gwib) The original book was the Masonic-owned version and had not been used in any church service so that no preference for a Christian church or sect, nor establishment of an official religion would be shown. In the colonies, the Bible was widely read and most people at that time knew of its writings because it had become part of the culture of those times.

These 3 Documents were chosen because they represent the beginnings and essence of the USA at its founding. If wars or other catastrophes on Earth result in the original Documents being destroyed, future generations in space should be able to discover, retrieve, and review these electronic copies from the NSTP-SAT so that they could find, salvage, and utilize these valuable concepts.

The electronic form of the Documents, which include the digitized text as well as an image of their present physical form, can be loaded on to a memory chip. These files are all in the Public Domain and currently can be downloaded easily from the internet at no charge. Such free availability assures that there should be no future commercialization of these electronic Documents once included in the spacecraft.

The memory chip can be securely attached inside the Spacecraft. Precedent has been set for inclusion of information about our culture in NASA missions: Voyager, Pioneer, New Horizons, Apollo, ISS, and most recently, OSIRIS-REx.

In 2016 the author of this NOI, Kenneth R. Kozy, submitted an eBook www.KenKozy.com which NASA placed on a memory chip of the OSIRIS-REx www.kenkozy.com/Documents/161003%20c5%20Article.pdf. Description of that event as well as a copy of those electronic Documents are available at www.kenkozy.com/Pages/eBookOSIRISREx.aspx. Also, a biography www.kenkozy.com/Pages/Biography.aspx and curriculum vitae www.kenkozy.com/Pages/CurriculumVitae.aspx are available at this author's web site .

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Same as the team performed in the OSIRIS-REx example mentioned above, mission operations would need to supply the memory chip, (see picture at end: www.kenkozy.com/Documents/The%20unreachable%20star%20v3.pdf), load the files on to it, determine the location of where to secure it to the spacecraft with proper radiation shielding, properly secure it and prepare it for balancing and vibration tests, environment, mounting, and mark its location for future access.

Also, mission operations need to notify the author regarding the required format for data transfer and help in the formatting and transfer activities. Although minimal, payload mass, physical dimensions, maximum envelope, budget and scheduling could be determined based upon the work activities performed when the OSIRIS-REx team loaded the electronic files submitted by people world-wide. (See this LINK: www.asteroidmission.org/WeTheExplorers/)

Once electronically loaded this data is passive and in this time-capsule type of environment, there would be no need for power, data, command, integration, cleanliness level, test or checkout, temperature, access, power and unique environments different from those experienced in the OSIRIS-REx activities mentioned above. Similarly, there are no different concerns regarding hazardous, explosive, chemical or biological aspects of the payload than there were for the OSIRIS-REx activities.

Since this data loaded is passive, there are no special requirements for orbit locations or any launch window constraints.

It is expected that the access of this stored data would be by Planetary Science personnel far into the future who would have need for this data as well as the capability to capture and inquire of the contents of this satellite. Before launch, NASA may desire to also inform the public and government of their intentions to place these select digitized United States of America Heritage Documents into this satellite for future time-capsule access, as well as its gratitude for the taxpayers and government which have funded the many activities and successes of NASA. This would be well received by the public and engender their gratefulness of NASA.

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