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LEVEL 0 EXPLORATION REQUIREMENTS FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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1.0 Mission Statement

NASA shall advance U.S. scientific, technological, security, and economic interests through a robust human and robotic space exploration program.

2.0 Level 0 Exploration Requirements

(1) NASA shall implement a safe, sustained, and affordable robotic and human program to explore and extend human presence across the solar system and beyond.

(1.1) NASA shall develop the innovative technologies, knowledge, capabilities, and infrastructures to support human and robotic exploration.

(1.2) NASA shall conduct a series of robotic missions to the Moon to prepare for and support future human exploration activities.

(1.3) NASA shall conduct human lunar expeditions to further science, and to develop and test new exploration approaches, technologies, and systems, including the use of lunar and other space resources to support sustained human space exploration to Mars and other destinations.

(1.4) NASA shall conduct robotic exploration of Mars to search for evidence of life, to understand the history of the solar system, and to prepare for future human exploration.

(1.5) NASA shall conduct human expeditions to Mars to extend the search for life and to expand the frontiers of human exploration after successfully demonstrating human exploration mission to the moon.

(1.6) NASA shall conduct robotic exploration across the solar system for scientific purposes and to support human exploration.

(1.7) NASA shall conduct advanced telescope searches for Earth-like planets and habitable environments around other stars.

(2) NASA shall acquire an exploration transportation system to support delivery of crew and cargo from the surface of the Earth to exploration destinations and to return the crew safely to Earth.

(3) NASA shall complete assembly of the International Space Station, including the U.S. components that support U.S. space exploration goals and components provided by foreign partners, planned by the end of the decade.

(3.1) NASA shall focus use of the Space Shuttle to complete assembly of the International Space Station.

(3.2) NASA shall focus U.S. International Space Station research and technology on supporting space exploration goals.

(3.3) NASA shall separate transportation of crew and cargo to the International Space Station to the maximum extent practical.

(4) NASA shall pursue opportunities for international participation to support U.S. space exploration goals.

(5) NASA shall pursue commercial opportunities for providing transportation and other services supporting the International Space Station and exploration missions beyond low Earth orbit.

(6) NASA shall identify and implement opportunities within missions for the specific purposes of inspiring the Nation.

3.0 Level I Exploration Objectives

(1) NASA shall develop and demonstrate power generation, propulsion, life support, and other key capabilities required to support more distant, more capable, and/or longer duration human and robotic exploration of Mars and other destinations. (Reference requirement - 1)

(1.1) Starting no later than 2008, NASA shall initiate a series of robotic missions to the Moon to prepare for and support future human exploration activities. (Reference requirement – 1.2)

(1.2) NASA shall conduct the first extended human expedition to the lunar surface as early as 2015, but no later than the year 2020, in preparation for human exploration of Mars and other destinations. (Reference requirement – 1.3)

(1.3) NASA shall explore Jupiter's moons, asteroids, and other bodies to search for evidence of life, to understand the history of the

solar system, and to search for resources. (Reference requirement – 1.6)

(2) NASA shall separate crew from cargo for launches of exploration missions to the maximum extent practical. (Reference requirement - 2)

(3) NASA shall conduct the initial test flight for the crew exploration vehicle before the end of the decade in order to provide an operational capability to support human exploration missions no later than 2014. (Reference requirement - 2)

(4) NASA shall retire the Space Shuttle as soon as assembly of the International Space Station is completed, planned for the end of this decade. (Reference requirement - 3)

(5) NASA shall conduct International Space Station activities in a manner consistent with U.S. obligations contained in the agreements between the United States and other partners in the International Space Station. (Reference requirement - 3)

(6) NASA shall acquire cargo transportation as soon as practical and affordable to support missions to and from the International Space Station. (Reference requirement - 3)

(7) NASA shall acquire crew transportation to and from the International Space Station, as required, after the Space Shuttle is retired from service. (Reference requirement - 3)