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18 MONTHS OF MOXIE (MARS OXYGEN ISRU EXPERIMENT) OPERATIONS ON THE SURFACE
OF MARS - PREPARING FOR HUMAN MARS EXPLORATION

Abstract

By the time of the 2022 IAC, NASA's Mars2020 Perseverance rover will have spent 18 months on the surface of Mars, during which time the MOXIE experiment (Mars OXYgen ISRU Experiment) will have produced oxygen at night and in the day during both the annual maximum and minimum atmospheric density periods, as well as at many other times during the year. MOXIE is the first demonstration of the use of indigenous resources (ISRU = In Situ Resource Utilization) on the surface of another planet. This paper will present a summary of what MOXIE has accomplished, with an emphasis on what has been learned from MOXIE about operating future solid oxide electrolysis systems on Mars.