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Radiological Contingency Planning for the Mars Science Laboratory Launch
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The U.S. Department of Energy (DOE) provides technical support to the requesting federal agency such as the Federal Bureau of Investigation, Department of Defense, the National Space and Aeronautics and Space Administration (NASA), or a state agency to address the radiological consequences of an event. These activities include measures to alleviate damage, loss, hardship, or suffering caused by the incident; protect public health and safety; restore essential government services; and provide emergency assistance to those affected. Scheduled to launch in the fall of 2009, Mars Science Laboratory is part of NASA's Mars Exploration Program, a long-term effort of robotic exploration of the red planet. Mars Science Laboratory is a rover that will assess whether Mars ever was, or is still today, an environment able to support microbial life. In other words, its mission is to determine the planet's "habitability." The Mars Science Laboratory rover will carry a radioisotope power system that generates electricity from the heat of plutonium's radioactive decay. This power source gives the mission an operating lifespan on Mars' surface of a full Martian year (687 Earth days) or more, while also providing significantly greater mobility and operational flexibility, enhanced science payload capability, and exploration of a much larger range of latitudes and altitudes than was possible on previous missions to Mars. National Security Technologies, LLC (NSTec), based in Las Vegas, Nevada, will support the DOE in its role for managing the overall radiological contingency planning support effort. This paper will focus on new technologies that NSTec is developing to enhance the overall response capability that would be required for a highly unlikely anomaly. This paper presents recent advances in collecting and collating data transmitted from deployed teams and sensors. NSTec is responsible to prepare the contingency planning for a range of areas from monitoring and assessment, sample collection and control, contaminated material release criteria, data management, reporting, recording, and even communications. The tools NSTec has available to support these efforts will be reported. The data platform NSTec will provide shall also be compatible with integration of assets and field data acquired with other DOE, NASA, state, and local resources, personnel, and equipment. This paper also outlines the organizational structure for response elements in radiological contingency planning.

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