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111TH CONGRESS
2D SESSION

# H. R. 5132

To require the Director of the National Institute of Standards and Technology to establish a research initiative to support the development of technical standards and conformance architecture to improve emergency communication and tracking technologies for use in locating trapped individuals in confined spaces and other shielded environments where conventional radio communication is limited, and for other purposes.

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IN THE HOUSE OF REPRESENTATIVES

APRIL 22, 2010

Mr. MATHESON introduced the following bill; which was referred to the Committee on Science and Technology

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# A BILL

To require the Director of the National Institute of Standards and Technology to establish a research initiative to support the development of technical standards and conformance architecture to improve emergency communication and tracking technologies for use in locating trapped individuals in confined spaces and other shielded environments where conventional radio communication is limited, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

**SECTION 1. SHORT TITLE.**

This Act may be cited as the ''Mine Communications Technology Innovation Act of 2010''.

**SEC. 2. FINDINGS.**

The Congress finds the following:

(1) The properties of confined spaces, such as underground mines, and shielded environments, such as high-rise buildings or collapsed structures, limit conventional radio communication capabilities. For instance, in coal mines, very low power radio waves must propagate through dense, absorptive materials. Radio waves also often cannot reach through dense rubble or penetrate multiple stories of concrete and steel.

(2) The April 2010 coal mine disaster in West Virginia illustrated how available emergency communication and tracking technologies did not function when they were needed most to locate victims of the disaster.

(3) Developing measurement protocols, technical standards, testing, and verification capabilities can bring greater assurance that emergency communication and tracking technologies used in confined spaces and shielded environments will function as intended in all situations.

(4) The National Institute of Standards and Technology has significant expertise in developing the measurement infrastructure and other technical capabilities to help stakeholders define tests and standards that ultimately make such technologies more reliable.

**SEC. 3. EMERGENCY COMMUNICATION AND TRACKING TECHNOLOGIES RESEARCH INITIATIVE.**

(a) ESTABLISHMENT.—The Director shall establish a research initiative to support the development of emergency communication and tracking technologies for use in locating trapped individuals in confined spaces, such as underground mines, and other shielded environments, such as high-rise buildings or collapsed structures, where conventional radio communication is limited.

(b) ACTIVITIES.—In order to carry out this section, the Director shall work with the private sector and appropriate Federal agencies to—

(1) perform a needs assessment to identify and evaluate the measurement, technical standards, and conformity assessment needs required to improve the operation and reliability of such emergency communication and tracking technologies; and

(2) support the development of technical standards and conformance architecture to improve the

operation and reliability of such emergency communication and tracking technologies.

(c) REPORT.—Not later than 18 months after the date of enactment of this Act, the Director shall submit to Congress and make publicly available a report describing the assessment performed under subsection (b)(1) and making recommendations about research priorities to address gaps in the measurement, technical standards, and conformity assessment needs identified by such assessment.

(d) DEFINITIONS.—In this section:

(1) DIRECTOR.—The term ''Director'' means the Director of the National Institute of Standards and Technology.

(2) FEDERAL AGENCY.—The term ''Federal agency'' has the meaning given such term in section 4 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3703).

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