In the Senate of the United States,

September 26 (legislative day, September 17), 2008.

Resolved, That the bill from the House of Representatives (H.R. 2631) entitled ''An Act to strengthen efforts in the Department of Homeland Security to develop nuclear forensics capabilities to permit attribution of the source of nuclear material, and for other purposes.'', do pass with the following

AMENDMENT:

Strike out all after the enacting clause and insert:

SECTION 1. FINDINGS.

Congress finds the following:

(1) The threat of a nuclear terrorist attack on American interests, both domestic and abroad, is one of the most serious threats to the national security of the United States. In the wake of an attack, attribution of responsibility would be of utmost importance. Because of the destructive power of the weapon, there

could be little forensic evidence except the radioactive material in the bomb itself.

(2) Through advanced nuclear forensics, using both existing techniques and those under development, it may be possible to identify the source and pathway of a weapon or material after it is interdicted or detonated. Though identifying intercepted smuggled material is now possible in some cases, pre-detonation forensics is a relatively undeveloped field. The post-detonation nuclear forensics field is also immature, and the challenges are compounded by the pressures and time constraints of performing forensics after a nuclear or radiological attack.

(3) A robust and well-known capability to identify the source of nuclear or radiological material intended for or used in an act of terror could also deter prospective proliferators. Furthermore, the threat of effective attribution could compel improved security at material storage facilities, preventing the unwitting transfer of nuclear or radiological materials.

(4)(A) In order to identify special nuclear material and other radioactive materials confidently, it is necessary to have a robust capability to acquire samples in a timely manner, analyze and characterize

samples, and compare samples against known signatures of nuclear and radiological material.

(B) Many of the radioisotopes produced in the detonation of a nuclear device have short half-lives, so the timely acquisition of samples is of the utmost importance. Over the past several decades, the ability of the United States to gather atmospheric samples, often the preferred method of sample acquisition, has diminished. This ability must be restored and modern techniques that could complement or replace existing techniques should be pursued.

(C) The discipline of pre-detonation forensics is a relatively undeveloped field. The radiation associated with a nuclear or radiological device may affect traditional forensics techniques in unknown ways. In a post-detonation scenario, radiochemistry may provide the most useful tools for analysis and characterization of samples. The number of radiochemistry programs and radiochemists in United States National Laboratories and universities has dramatically declined over the past several decades. The narrowing pipeline of qualified people into this critical field is a serious impediment to maintaining a robust and credible nuclear forensics program.

(5) Once samples have been acquired and characterized, it is necessary to compare the results against samples of known material from reactors, weapons, and enrichment facilities, and from medical, academic, commercial, and other facilities containing such materials, throughout the world. Some of these samples are available to the International Atomic Energy Agency through safeguards agreements, and some countries maintain internal sample databases. Access to samples in many countries is limited by national security concerns.

(6) In order to create a sufficient deterrent, it is necessary to have the capability to positively identify the source of nuclear or radiological material, and potential traffickers in nuclear or radiological material must be aware of that capability. International cooperation may be essential to catalogue all existing sources of nuclear or radiological material.

SEC. 2. SENSE OF CONGRESS ON INTERNATIONAL AGREEMENTS FOR FORENSICS COOPERATION.

It is the sense of the Congress that the President should—

(1) pursue bilateral and multilateral international agreements to establish, or seek to establish under the auspices of existing bilateral or multilateral

agreements, an international framework for determining—

(A) the source of any confiscated nuclear or radiological material or weapon; and

(B) the source of any detonated weapon and the nuclear or radiological material used in such a weapon;

(2) develop protocols for the data exchange and dissemination of sensitive information relating to nuclear or radiological materials and samples of controlled nuclear or radiological materials, to the extent required by the agreements entered into under paragraph (1); and

(3) develop expedited protocols for the data exchange and dissemination of sensitive information needed to publicly identify the source of a nuclear detonation.

SEC. 3. RESPONSIBILITIES OF DOMESTIC NUCLEAR DETECTION OFFICE.

(a) ADDITIONAL RESPONSIBILITIES.—Section 1902 of the Homeland Security Act of 2002 (6 U.S.C. 592) is amended—

(1) by striking "(a) MISSION";

(2) in paragraph (9), by striking "and" at the end;

(3) by redesignating paragraph (10) as paragraph (14); and

(4) by inserting after paragraph (9) the following:

"(10) develop and implement, with the approval of the Secretary, and in consultation with the Attorney General, the Secretary of Defense, the Secretary of Energy, the Secretary of State, the Director of National Intelligence, and the heads of appropriate departments and agencies, a 'National Strategy and Five-Year Implementation Plan for Improving the Nuclear Forensic and Attribution Capabilities of the United States Government' and the methods, capabilities, and capacity for nuclear materials forensics and attribution, including—

"(A) an investment plan to support nuclear materials forensics and attribution;

"(B) the allocation of roles and responsibilities for pre-detonation, detonation, and post-detonation activities; and

"(C) the attribution of nuclear or radiological material to its source when such material is intercepted by the United States, foreign governments, or international bodies or is dispersed

in the course of a terrorist attack or other nuclear or radiological explosion;

"(11) establish, within the Domestic Nuclear Detection Office, the National Technical Nuclear Forensics Center to provide centralized stewardship, planning, assessment, gap analysis, exercises, improvement, and integration for all Federal nuclear forensics and attribution activities—

"(A) to ensure an enduring national technical nuclear forensics capability to strengthen the collective response of the United States to nuclear terrorism or other nuclear attacks; and

"(B) to coordinate and implement the national strategic plan and 5-year plan to improve national forensics and attribution capabilities for all Federal nuclear and radiological forensics capabilities;

"(12) establish a National Nuclear Forensics Expertise Development Program, which—

"(A) is devoted to developing and maintaining a vibrant and enduring academic pathway from undergraduate to post-doctorate study in nuclear and geochemical science specialties directly relevant to technical nuclear forensics, including radiochemistry, geochemistry, nuclear

physics, nuclear engineering, materials science, and analytical chemistry; and

"(B) shall—

"(i) make available for undergraduate study student scholarships, with a duration of up to 4 years per student, which shall include, if possible, at least 1 summer internship at a national laboratory or appropriate Federal agency in the field of technical nuclear forensics during the course of the student's undergraduate career;

"(ii) make available for graduate study student fellowships, with a duration of up to 5 years per student, which shall—

"(I) include, if possible, at least 2 summer internships at a national laboratory or appropriate Federal agency in the field of technical nuclear forensics during the course of the student's graduate career; and

"(II) require each recipient to commit to serve for 2 years in a postdoctoral position in a technical nuclear forensics-related specialty at a national

laboratory or appropriate Federal agency after graduation;

"(iii) make available to faculty awards, with a duration of 3 to 5 years each, to ensure faculty and their graduate students have a sustained funding stream; and

"(iv) place a particular emphasis on reinvigorating technical nuclear forensics programs; and".

(b) JOINT INTERAGENCY ANNUAL REPORTING REQUIREMENT TO CONGRESS AND THE PRESIDENT.—

(1) IN GENERAL.—Section 1907(a)(1) of the Homeland Security Act of 2002 (6 U.S.C. 596(a)(1)) is amended—

(A) in subparagraph (A)(ii), by striking "and" at the end;

(B) in subparagraph (B)(iii), by striking the period at the end and inserting "; and"; and

(C) by adding at the end the following:

"(C) the Director of the Domestic Nuclear Detection Office and each of the relevant Departments that are partners in the National Technical Forensics Center—

"(i) includes, as part of the assessments, evaluations, and reviews required under this paragraph, each relevant agency's activities and investments in support of nuclear forensics and attribution activities;

"(ii) attaches, as an appendix to the Joint Interagency Annual Review, the most current version of the plan required under section 1902(a)(10); and

"(iii) after March 31 of each year, funds allocated for activities authorized under section 1902 are not spent until the submission to Congress of the report required under subsection (b).".

Attest:

Secretary.

110TH CONGRESS
2D SESSION

H.R. 2631

AMENDMENT