

**AMENDMENT IN THE NATURE OF A SUBSTITUTE
TO H.R. 3916
OFFERED BY MR. HALL OF TEXAS**

Strike all after the enacting clause and insert the following:

1 **SEC. 1. SHORT TITLE.**

2 This Act may be cited as the “Border Security Tech-
3 nology Innovation Act of 2008”.

4 **SEC. 2. ENSURING RESEARCH ACTIVITIES OF THE DEPART-**
5 **MENT OF HOMELAND SECURITY INCLUDE AP-**
6 **PROPRIATE CONCEPTS OF OPERATION.**

7 The Under Secretary for Science and Technology of
8 the Department of Homeland Security (in this Act re-
9 ferred to as the “Under Secretary”) shall ensure that any
10 Federal Government interagency or intra-agency agree-
11 ment entered into by the Under Secretary to develop and
12 transition new technology explicitly characterizes the re-
13 quirements, expected use, and concept of operations for
14 that technology, including—

15 (1) the manpower needed to effectively operate
16 the technology;

17 (2) the expected training requirements; and

1 (3) the expected operations and maintenance
2 costs.

3 **SEC. 3. REAUTHORIZATION OF HOMELAND SECURITY**
4 **SCIENCE AND TECHNOLOGY ADVISORY COM-**
5 **MITTEE.**

6 Section 311(j) of the Homeland Security Act of 2002
7 (6 U.S.C. 191(j)) is amended by striking “on December
8 31, 2008” and inserting “on December 31, 2012”.

9 **SEC. 4. REPORT ON BASIC RESEARCH NEEDS FOR BORDER/**
10 **MARITIME SECURITY.**

11 Not later than 3 months after the date of enactment
12 of this Act, the Under Secretary shall enter into an ar-
13 rangement with the National Research Council for a one-
14 year assessment of the basic science research needs in the
15 border and maritime security domain. The assessment
16 shall include consideration of—

- 17 (1) detection, tracking, and identification tech-
18 nologies for cargo and people;
19 (2) personal protective equipment;
20 (3) anticounterfeit technologies; and
21 (4) nonradiological advanced screening tech-
22 nologies at ports of entry.

1 **SEC. 5. INCORPORATING UNMANNED AERIAL VEHICLES**
2 **INTO BORDER/MARITIME AIRSPACE.**

3 (a) **RESEARCH AND DEVELOPMENT.**—The Secretary
4 of Homeland Security and the Director of the Joint Plan-
5 ning and Development Office shall research and develop
6 technologies to permit routine operation of unmanned aer-
7 ial vehicles, including autonomously piloted drones, within
8 the national airspace for border and maritime security
9 missions without any degradation of existing levels of safe-
10 ty for all national airspace system users.

11 (b) **PILOT PROJECTS.**—The Secretary shall coordi-
12 nate with the Administrator of the Federal Aviation Ad-
13 ministration and the Director of the Joint Planning and
14 Development Office to enter into pilot projects in sparsely
15 populated, low-density Class G air traffic airspace to con-
16 duct experiments and collect data in order to accelerate
17 the safe integration of unmanned aircraft systems into the
18 national airspace system as part of research activities of
19 the Joint Planning and Development Office.

20 **SEC. 6. ESTABLISHING A RESEARCH PROGRAM IN TUNNEL**
21 **DETECTION.**

22 (a) **RESEARCH AND DEVELOPMENT.**—The Under
23 Secretary shall research and develop technologies to per-
24 mit detection of near surface voids, such as tunnels, with
25 an emphasis on technologies with real time capability.

1 (b) COORDINATION.—The Secretary of Homeland Se-
2 curity shall coordinate with other appropriate Federal
3 agencies, including the Department of Defense and the
4 United States Geological Survey, and ensure the integra-
5 tion of activities under subsection (a) with relevant efforts
6 of such other agencies and the Department of Homeland
7 Security’s Centers of Excellence Program.

8 **SEC. 7. RESEARCH IN ANTICOUNTERFEIT TECHNOLOGIES.**

9 (a) ESTABLISHMENT OF PROGRAM.—The Under Sec-
10 retary and the Director of the National Institute of Stand-
11 ards and Technology shall establish a joint research and
12 development program on anticounterfeit technologies and
13 standards. The program may include assessment or devel-
14 opment of counterfeit-resistant documentation, counter-
15 feit-resistant or tamper-resistant devices, document vali-
16 dation technologies, and document identification stand-
17 ards.

18 (b) COORDINATION.—In carrying out the program in
19 subsection (a), the Under Secretary shall coordinate with
20 other Federal agencies engaged in similar activities, in-
21 cluding Immigration and Customs Enforcement, the De-
22 partment of State, the Department of Defense, the United
23 States Coast Guard, and the Department of Justice.

24 (c) REPORT TO CONGRESS.—Not later than 12
25 months after the date of enactment of this Act, the Under

1 Secretary and the Director of the National Institute of
2 Standards and Technology shall provide to the Committee
3 on Homeland Security and the Committee on Science and
4 Technology of the House of Representatives, and the Com-
5 mittee on Homeland Security and Government Affairs of
6 the Senate, a report detailing the actions taken by the
7 Under Secretary and the Director under this section.

8 **SEC. 8. STUDY ON GLOBAL POSITIONING SYSTEM TECH-**
9 **NOLOGIES.**

10 (a) IN GENERAL.—The Under Secretary shall con-
11 duct a study of the need for next generation global posi-
12 tioning system technology as it relates to border security,
13 including—

14 (1) conducting an analysis of the frequency of
15 unintended border crossings and the capability of
16 global positioning system technologies to address un-
17 intended border crossings by government personnel;

18 (2) undertaking an examination of the potential
19 end user requirements for global positioning system
20 technologies, including cost limitations, accessibility,
21 and reliability; and

22 (3) developing recommendations for potential
23 near-term and long-term research, development, test-
24 ing, and evaluation of border security-focused global
25 positioning technologies.

1 (b) CONSULTATION.—In conducting the study under
2 subsection (a), the Under Secretary shall consult with
3 U.S. Customs and Border Protection, the National Insti-
4 tute of Standards and Technology, the United States Geo-
5 logical Survey, and appropriate Federal, State, and local
6 law enforcement officials.

7 (c) REPORT.— Not later than 1 year after the date
8 of enactment of this Act, the Under Secretary shall trans-
9 mit to Congress a report on the findings of the study con-
10 ducted under this section.