

106TH CONGRESS  
2D SESSION

# S. 3002

To authorize a coordinated research program to ensure the integrity, safety, and reliability of natural gas and hazardous liquids pipelines, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

SEPTEMBER 5, 2000

Mr. BINGAMAN (for himself, Mr. MCCAIN, Mr. HOLLINGS, Mrs. MURRAY, Mr. BROWNBACK, Mr. DOMENICI, Mr. BREAU, Mr. ROBB, Mr. TORRICELLI, and Mr. GORTON) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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## A BILL

To authorize a coordinated research program to ensure the integrity, safety, and reliability of natural gas and hazardous liquids pipelines, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Pipeline Integrity,  
5 Safety, and Reliability Research and Development Act of  
6 2000”.

7 **SEC. 2. FINDINGS.**

8 Congress finds that—

1           (1) natural gas and hazardous liquid pipelines  
2           are a critical element of our nation's energy infra-  
3           structure;

4           (2) pipeline transportation of natural gas and  
5           liquid fuels is a cost-effective means of delivering en-  
6           ergy;

7           (3) the Nation's reliance on pipelines is increas-  
8           ing, especially for delivery of fuel to densely popu-  
9           lated areas;

10          (4) a number of the Nation's pipelines have  
11          been in service for more than 50 years;

12          (5) ensuring pipelines are constructed and  
13          maintained to minimize the risks to safety and the  
14          environment is a national priority;

15          (6) early detection of serious defects in a pipe-  
16          line reduces the risk of accidents;

17          (7) pipeline operators and Federal and State in-  
18          spectors need advanced technologies to locate defects  
19          and monitor pipelines before failures occur;

20          (8) the many benefits of pipeline transportation  
21          are in the national interest and it is appropriate for  
22          the Federal Government to provide investment in  
23          fundamental and research-driven innovation in the  
24          areas of pipeline materials, operations, and inspec-  
25          tions techniques; and

1           (9) Federal contributions to promoting pipeline  
2           safety should be part of a coordinated research and  
3           development program under the Department of  
4           Transportation and in coordination with the Depart-  
5           ment of Energy, the national laboratories, univer-  
6           sities, the private sector, and other research insti-  
7           tutes.

8   **SEC. 3. COOPERATION AND COORDINATION PROGRAM FOR**  
9                           **PIPELINE INTEGRITY RESEARCH AND DEVEL-**  
10                          **OPMENT.**

11           (a) **IN GENERAL.**—The Secretary of Transportation,  
12           in coordination with the Secretary of Energy, shall develop  
13           and implement an accelerated cooperative program of re-  
14           search and development to ensure the integrity of natural  
15           gas and hazardous liquid pipelines. This research and de-  
16           velopment program shall include materials inspection tech-  
17           niques, risk assessment methodology, and information sys-  
18           tems surety.

19           (b) **PURPOSE.**—The purpose of the cooperative re-  
20           search program shall be to promote research and develop-  
21           ment to—

22                   (1) ensure long-term safety, reliability and serv-  
23           ice life for existing pipelines;

- 1           (2) expand capabilities of internal inspection  
2 devices to identify and accurately measure defects  
3 and anomalies;
- 4           (3) develop inspection techniques for pipelines  
5 that cannot accommodate the internal inspection de-  
6 vices available on the date of enactment;
- 7           (4) develop innovative techniques to measure  
8 the structural integrity of pipelines to prevent pipe-  
9 line failures;
- 10          (5) develop improved materials and coatings for  
11 use in pipelines;
- 12          (6) improve the capability, reliability, and prac-  
13 ticality of external leak detection devices;
- 14          (7) identify underground environments that  
15 might lead to shortened service life;
- 16          (8) enhance safety in pipeline siting and land  
17 use;
- 18          (9) minimize the environmental impact of pipe-  
19 lines;
- 20          (10) demonstrate technologies that improve  
21 pipeline safety, reliability, and integrity;
- 22          (11) provide risk assessment tools for opti-  
23 mizing risk mitigation strategies; and
- 24          (12) provide highly secure information systems  
25 for controlling the operation of pipelines.

1 (c) AREAS.—In carrying out this Act, the Secretary  
2 of Transportation, in coordination with the Secretary of  
3 Energy, shall consider research and development on nat-  
4 ural gas, crude oil, and petroleum product pipelines for—

5 (1) early crack, defect, and damage detection,  
6 including real-time damage monitoring;

7 (2) automated internal pipeline inspection sen-  
8 sor systems;

9 (3) land use guidance and set back manage-  
10 ment along pipeline rights-of-way for communities;

11 (4) internal corrosion control;

12 (5) corrosion-resistant coatings;

13 (6) improved cathodic protection;

14 (7) inspection techniques where internal inspec-  
15 tion is not feasible, including measurement of struc-  
16 tural integrity;

17 (8) external leak detection, including portable  
18 real-time video imaging technology, and the advance-  
19 ment of computerized control center leak detection  
20 systems utilizing real-time remote field data input;

21 (9) longer life, high strength, non-corrosive  
22 pipeline materials;

23 (10) assessing the remaining strength of exist-  
24 ing pipes;

1           (11) risk and reliability analysis models, to be  
2 used to identify safety improvements that could be  
3 realized in the near term resulting from analysis of  
4 data obtained from a pipeline performance tracking  
5 initiative.

6           (12) identification, monitoring, and prevention  
7 of outside force damage, including satellite surveil-  
8 lance; and

9           (13) any other areas necessary to ensuring the  
10 public safety and protecting the environment.

11 (d) POINTS OF CONTACT.—

12           (1) IN GENERAL.—To coordinate and imple-  
13 ment the research and development programs and  
14 activities authorized under this Act—

15           (A) the Secretary of Transportation shall  
16 designate, as the point of contact for the De-  
17 partment of Transportation, an officer of the  
18 Department of Transportation who has been  
19 appointed by the President and confirmed by  
20 the Senate; and

21           (B) the Secretary of Energy shall des-  
22 ignate, as the point of contact for the Depart-  
23 ment of Energy, an officer of the Department  
24 of Energy who has been appointed by the Presi-  
25 dent and confirmed by the Senate.

1           (2) DUTIES.—(A) The point of contact for the  
2           Department of Transportation shall have the pri-  
3           mary responsibility for coordinating and overseeing  
4           the implementation of the research, development,  
5           and demonstration program plan, as defined in sub-  
6           sections (e) and (f).

7           (B) The points of contact shall jointly assist in  
8           arranging cooperative agreements for research, de-  
9           velopment, and demonstration involving their respec-  
10          tive Departments, national laboratories, universities,  
11          and industry research organizations.

12          (e) RESEARCH AND DEVELOPMENT PROGRAM  
13          PLAN.—Within 240 days after the date of enactment of  
14          this Act, the Secretary of Transportation, in coordination  
15          with the Secretary of Energy and the Pipeline Integrity  
16          Technical Advisory Committee, shall prepare and submit  
17          to the Congress a 5-year program plan to guide activities  
18          under this Act. In preparing the program plan, the Sec-  
19          retary shall consult with appropriate representatives of the  
20          natural gas, crude oil, and petroleum product pipeline in-  
21          dustries to select and prioritize appropriate project pro-  
22          posals. The Secretary may also seek the advice of utilities,  
23          manufacturers, institutions of higher learning, Federal  
24          agencies, the pipeline research institutions, national lab-  
25          oratories, State pipeline safety officials, environmental or-

1 ganizations, pipeline safety advocates, and professional  
2 and technical societies.

3 (f) IMPLEMENTATION.—The Secretary of Transpor-  
4 tation shall have primary responsibility for ensuring the  
5 five-year plan provided for in subsection (e) is imple-  
6 mented as intended by this Act. In carrying out the re-  
7 search, development, and demonstration activities under  
8 this Act, the Secretary of Transportation and the Sec-  
9 retary of Energy may use, to the extent authorized under  
10 applicable provisions of law, contracts, cooperative agree-  
11 ments, cooperative research and development agreements  
12 under the Stevenson-Wydler Technology Innovation Act of  
13 1980 (15 U.S.C. 3701 et seq.), grants, joint ventures,  
14 other transactions, and any other form of agreement avail-  
15 able to the Secretary consistent with the recommendations  
16 of the Advisory Committee.

17 (g) REPORTS TO CONGRESS.—The Secretary of  
18 Transportation shall report to the Congress annually as  
19 to the status and results to date of the implementation  
20 of the research and development program plan. The report  
21 shall include the activities of the Departments of Trans-  
22 portation and Energy, the national laboratories, univer-  
23 sities, and any other research organizations, including in-  
24 dustry research organizations.

1 **SEC. 4. PIPELINE INTEGRITY TECHNICAL ADVISORY COM-**  
2 **MITTEE.**

3 (a) ESTABLISHMENT.—The Secretary of Transpor-  
4 tation shall enter into appropriate arrangements with the  
5 National Academy of Sciences to establish and manage the  
6 Pipeline Integrity Technical Advisory Committee for the  
7 purpose of advising the Secretary of Transportation and  
8 the Secretary of Energy on the development and imple-  
9 mentation of the five-year research, development, and  
10 demonstration program plan as defined in Sec. 3(e). The  
11 Advisory Committee shall have an ongoing role in evalu-  
12 ating the progress and results of the research, develop-  
13 ment, and demonstration carried out under this Act.

14 (b) MEMBERSHIP.—The National Academy of  
15 Sciences shall appoint the members of the Pipeline Integ-  
16 rity Technical Advisory Committee after consultation with  
17 the Secretary of Transportation and the Secretary of En-  
18 ergy. Members appointed to the Advisory Committee  
19 should have the necessary qualifications to provide tech-  
20 nical contributions to the purposes of the Advisory Com-  
21 mittee.

22 **SEC. 5. AUTHORIZATION OF APPROPRIATION.**

23 (a) There are authorized to be appropriated to the  
24 Secretary of Transportation for carrying out this Act  
25 \$3,000,000, which is to be derived from user fees (49

1 U.S.C. Sec. 60125), for each of the fiscal years 2001  
2 through 2005.

3 (b) Of the amounts available in the Oil Spill Liability  
4 Trust Fund (26 U.S.C. Sec. 9509), \$3,000,000 shall be  
5 transferred to the Secretary of Transportation to carry  
6 out programs for detection, prevention, and mitigation of  
7 oil spills authorized in this Act for each of the fiscal years  
8 2001 through 2005.

9 (c) There are authorized to be appropriated to the  
10 Secretary of Energy for carrying out this Act such sums  
11 as may be necessary for each of the fiscal years 2001  
12 through 2005.

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