AMENDMENT TO H.R. 2454

OFFERED BY MR. TONKO OF NEW YORK

Page 243, after line 2, insert the following new section:

SEC. 175. HIGH EFFICIENCY GAS TURBINE RESEARCH, DEVELOPMENT, AND DEMONSTRATION.

(a) IN GENERAL.—The Secretary of Energy shall carry out a multiyear, multiphase program of research, development, and technology demonstration to improve the efficiency of gas turbines used in combined cycle power generation systems and to identify the technologies that ultimately will lead to gas turbine combined cycle efficiency of 65 percent.

(b) PROGRAM ELEMENTS.—The program under this section shall—

(1) support first-of-a-kind engineering and detailed gas turbine design for utility-scale electric power generation, including—

(A) high temperature materials, including superalloys, coatings, and ceramics;

(B) improved heat transfer capability;

1 (C) manufacturing technology required to
2 construct complex three-dimensional geometry
3 parts with improved aerodynamic capability;
4 (D) combustion technology to produce
5 higher firing temperature while lowering nitro-
6 gen oxide and carbon monoxide emissions per
7 unit of output;
8 (E) advanced controls and systems integra-
9 tion;
10 (F) advanced high performance compressor
11 technology; and
12 (G) validation facilities for the testing of
13 components and subsystems;
14 (2) include technology demonstration through
15 component testing, subscale testing, and full scale
16 testing in existing fleets;
17 (3) include field demonstrations of the devel-
18 oped technology elements so as to demonstrate tech-
19 nical and economic feasibility; and
20 (4) assess overall combined cycle system per-
21 formance.
22 (c) PROGRAM GOALS.—The goals of the multiphase
23 program established under subsection (a) shall be—
24 (1) in phase I—

1 (A) to develop the conceptual design of ad-
2 vanced high efficiency gas turbines that can
3 achieve at least 62 percent combined cycle effi-
4 ciency on a lower heating value basis; and
5 (B) to develop and demonstrate the tech-
6 nology required for advanced high efficiency gas
7 turbines that can achieve at least 62 percent
8 combined cycle efficiency on a lower heating
9 value basis; and
10 (2) in phase II, to develop the conceptual de-
11 sign for advanced high efficiency gas turbines that
12 can achieve at least 65 percent combined cycle effi-
13 ciency on a lower heating value basis.
14 (d) PROPOSALS.—Within 180 days after the date of
15 enactment of this section, the Secretary shall solicit pro-
16 posals for conducting activities under this section. In se-
17 lecting proposals, the Secretary shall emphasize—
18 (1) the extent to which the proposal will stimu-
19 late the creation or increased retention of jobs in the
20 United States; and
21 (2) the extent to which the proposal will pro-
22 mote and enhance United States technology leader-
23 ship.

1 (e) COST SHARING.—Section 988 of the Energy Pol-
2 icy Act of 2005 (42 U.S.C. 16352) shall apply to an award
3 of financial assistance made under this section.

4 (f) LIMITS ON PARTICIPATION.—The limits on par-
5 ticipation applicable under section 999E of the Energy
6 Policy Act of 2005 (42 U.S.C. 16375) shall apply to finan-
7 cial assistance awarded under this section.

8 (g) AUTHORIZATION OF APPROPRIATIONS.—There
9 are authorized to be appropriated to the Secretary for car-
10 rying out this section $65,000,000 for each of fiscal years
11 2011 through 2014.