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Section-by-Section Analysis of Key Provisions Affecting Consumers in the Energy Policy Act of 2005, Senate Draft, May 10, 2005

Title VII - Vehicles and Fuels

Subtitle A - Existing Programs

Makes no changes to the Corporate Average Fuel Economy (CAFE) credit program, and does nothing to raise fuel economy standards for passenger vehicles—the most important measure for reducing our dependence on foreign oil.

Title IX – Research and Development

Subtitle D, Section 941 – Nuclear energy

Authorizes \$1.18 billion over 3 years for nuclear power research, development, demonstration, and commercial application activities, of which \$580 million are allocated for reprocessing; \$149.7 million for nuclear energy fellowships and research infrastructure; and \$18 million for a survey of industrial applications of radioactive sources and a R&D plan for developing small particle accelerators. Authorizes another \$420 million over 3 years for nuclear infrastructure. Total authorization = \$1.6 billion.

Subtitle D, Section 942 – Nuclear energy research programs

Requires DOE to implement several nuclear energy research programs:

- Nuclear Energy Research Initiative, a research and development program for nuclear energy
- Nuclear Energy Plant Optimization Program, a research and development program on reliability, availability, productivity, aging, safety, and security of existing nuclear plants
- Nuclear Power 2010, which promotes the construction and operation of new nuclear power plants by 2010 and provides taxpayer money for half the cost of license applications. Requires collaboration with National Laboratories, other countries, universities, and industry; and consideration of a variety of reactor designs “suitable for both developed and developing nations”
- Generation IV, to develop new reactors designs, including “proliferation-resistant” and “passively safe” designs
- Research on designs for reactors capable of producing hydrogen

Requires DOE to report to Congress on strategy for facilities of the Office of Nuclear Energy, Science, and Technology for fiscal year 2006, including an evaluation of existing facilities and need for new facilities.

Subtitle D, Section 943 – Advanced fuel cycle initiative

Authorizes DOE to conduct research and development on reprocessing and transmutation technologies (alternatives to aqueous reprocessing technologies). Reprocessing, a process in which uranium and plutonium are separated from spent fuel, creates serious environmental problems and proliferation risks. Tanks containing the waste created during reprocessing at Hanford in Washington and the Savannah River Site in South Carolina are leaking and threaten to contaminate important drinking water sources. Moreover, the only commercial reprocessing plant in the United States, at West Valley, NY, was an economic failure, in addition to being an environmental disaster.

Subtitle D, Section 944 - Nuclear science and engineering support for institutions of higher education

Directs DOE to invest in human resources and infrastructure in the nuclear sciences and engineering fields through fellowships and visiting scientist programs; collaborative research with industry, National Laboratories, and universities (Nuclear Energy Research Initiative); R&D programs on the full fuel cycle (ie reprocessing); outreach; upgrading and sharing of research reactors; technical assistance; and funding. This program would further subsidize the nuclear industry and entrench nuclear power research within the university system.

Subtitle D, Section 945 – Security of nuclear facilities

Directs DOE to implement a research and development program on technologies to increase the safety of nuclear facilities from natural phenomena and the security of nuclear facilities from attacks. This section fails to address the urgent security upgrades that need to be immediately implemented, such as the protection of reactors from air attack; the vulnerabilities of the spent fuel pools; and the conflict-of-interest caused by hiring the same company, Wackenhut, to both guard and test guards at almost half of the nuclear plants in the country.

Subtitle D, Section 946 – Alternatives to industrial radioactive sources

Requires DOE to report to Congress on the results of a survey of industrial application of large radioactive sources, including well-logging sources and a plan for an R&D program to develop alternatives to these sources, including miniaturized particle accelerators for industrial applications and portable accelerators for production of short-lived radioactive materials.

Subtitle E, Section 951 – Fossil energy

Authorizes \$1.743 billion over 3 years “to carry out fossil energy research, development, demonstration, and commercial application activities.”

Subtitle E, Section 952 – Oil and gas research programs

Allocates \$140 million for subsidies to oil companies for exploration and production and other oil company activities.

Subtitle E, Section 953 – Methane hydrate research

Allocates a number of different subsidies, including \$165 million in taxpayer handouts, to encourage coal-bed methane development.

Subtitle E, Section 954 – Research and development for coal mining and technologies

Provides \$60 million in taxpayer subsidies to develop new coal mining technologies.

Subtitle E, Section 955 – Coal and related technologies program

Authorizes \$220.5 million in taxpayer subsidies for new coal power plants.

Subtitle E, Section 956 – Carbon dioxide capture research and development

Promotes the untested and controversial carbon sequestration program, where carbon dioxide is stored underground - with no guarantee that the huge amounts of underground carbon dioxide won't escape to the surface or have unintended environmental impacts.

Subtitle F, Section 962 – Fusion energy sciences program

Declares it the policy of the United States to research and develop fusion energy. Requires DOE to submit a plan to Congress in 180 days for the implementation of this policy. Authorizes DOE to negotiate an agreement for the United States to participate in the ITER (International Fusion Energy Project). Requires DOE to request a review of its plan for participation by the National Academy of Sciences. Canada, China, Europe, Japan, Russia, and South Korea are part of the ITER program, which has the mission “to demonstrate the scientific and technological feasibility of fusion energy for peaceful purposes” (i.e., electricity). The countries have not been able to agree on where to site the facility. The two sites are under consideration are Cadarache in France (supported by Europe, China, and Russia) and Rokkasho in Japan (supported by Japan, South Korea, and the US). Japan recently indicated that it would pull out of the running under certain conditions. Requires DOE to submit a plan for a domestic burning plasma experiment if negotiations on the ITER fail. The fusion process requires deuterium and tritium, and would produce low-level radioactive waste. Authorizes \$1.088 billion for the Fusion Energy Sciences program over 3 years and another \$265 million for construction costs (Section 961).

Title X – DOE Management

Section 1002 – Cost Sharing

Requires at least 20% “cost-sharing” with non-Federal sources for research and development projects and at least 50% “cost-sharing” for demonstration and commercial application projects.

Section 1004 – External Technical Review of Department Programs

Directs DOE to establish one or more advisory boards to review its R&D, demonstration, and commercial application programs, or to designate an existing advisory board, or to arrange for the National Academy of Sciences to establish an advisory board. Requires that the advisory board “represent a diverse range of interests,” but does not specifically require representation of members of the public or public interest groups with expertise in area.

Section 1005 – Improved Technology Transfer of Energy Technologies

Requires DOE to use 0.5 % of its annual budget for matching funds with private partners to promote “promising technologies” for commercial use.

Section 1011 – Improved Coordination and Management of Civilian Science and Technology Programs

Establishes a new “Assistant Secretary for Nuclear Energy” position. Establishes a sense of Congress that DOE missions in nuclear energy should be at the Assistant Secretary level.

Title XI – Personnel and Training

Section 1101 – Workforce Trends and Traineeship Grants

Requires DOE to monitor trends and report to Congress on shortage of skilled technical personnel within the energy technology sector, including the nuclear power, oil and gas, coal, renewable, and efficiency industries. Authorizes \$60 million over 3 years for DOE to give grants to train technical personnel in which a shortage is identified.