

AMENDMENT TO THE COMMITTEE PRINT
OFFERED BY MR. BAIRD OF WASHINGTON

Page 2, lines 8 and 12, redesignate subsections (c) and (d) as subsections (d) and (e), respectively.

Page 2, after line 7, insert the following new subsection:

1 (c) USER FACILITIES.—The Director shall carry out
2 the construction, operation, and maintenance of user fa-
3 cilities to support the activities described in subsection (a).
4 As practicable, these facilities shall serve the needs of the
5 Department, industry, the academic community, and other
6 relevant entities for the purposes of advancing the mis-
7 sions of the Department.

Page 2, line 24, insert “BASIC ENERGY SCIENCES” before “USER FACILITIES”.

Page 3, line 12, strike “high-intensity” and insert “x-ray”.

Page 3, line 14, strike “characterization” and insert “microcharacterization”.

Page 3, line 15, strike “and”.

Page 3, line 16, strike the period and insert “; and”.

Page 3, after line 16, insert the following new subparagraph:

- 1 (E) other facilities the Director considers
2 appropriate, consistent with section 103(c).

Page 3, line 22, strike “and”.

Page 3, line 24, strike the period and insert “; and”.

Page 3, after line 24, insert the following new subparagraph:

- 3 (C) an upgrade of the Advanced Photon
4 Source to improve brightness and performance.

Page 4, lines 10 and 13, redesignate subparagraphs (B) and (C) as subparagraphs (C) and (D), respectively.

Page 4, after line 9, insert the following new subparagraph:

- 5 (B) the Basic Energy Sciences Basic Research
6 Needs workshop reports;

Page 4, lines 18 through 22, amend paragraph (3) to read as follows:

- 7 (3) SELECTION AND DURATION.—
8 (A) IN GENERAL.—A collaboration under
9 this subsection shall be selected for a period of
10 5 years.

1 (B) REAPPLICATION.—After the end of the
2 period described in subparagraph (A), a grantee
3 may reapply for selection for a second period of
4 5 years on a competitive, merit-reviewed basis.

Page 5, lines 14 and 15, strike “biological, climate, and environmental systems” and insert “biological systems science and climate and environmental”.

Page 6, line 1, strike “increase” and insert “accelerate breakthroughs and new knowledge that will enable”.

Page 6, line 5, strike “remove” and insert “improve understanding of the global carbon cycle, including processes for removing”.

Page 6, line 9, insert “understand the biological mechanisms used to” before “destroy,”.

Page 6, line 14, strike “2 years” and insert “3 years”.

Page 6, line 19, strike “ESTABLISHMENT OF CENTERS” and insert “IN GENERAL”.

Page 6, lines 21 and 22, strike “establish or maintain at least 3” and insert “support at least 3”.

Page 7, line 5, strike “Secretary” and insert “Director”.

Page 7, lines 8 through 15, amend subparagraph (C) to read as follows:

1 (C) SELECTION AND DURATION.—A center
2 established under subparagraph (A) shall be se-
3 lected on a competitive, merit-reviewed basis for
4 a period of 5 years beginning on the date of es-
5 tablishment of that center. A center already in
6 existence on the date of enactment of this Act
7 may continue to receive support for a period of
8 5 years beginning on the date of establishment
9 of that center.

Page 8, line 12, insert “The plan shall describe the role of the Federal Government in meeting these needs.” after “synthetic biology.”.

Page 11, line 6, strike “who” and insert “that”.

Page 15, line after line 19, insert the following new subsection (and redesignate the subsequent subsections accordingly):

10 (c) RESEARCH TO SUPPORT ENERGY APPLICA-
11 TIONS.—As part of the activities authorized under sub-
12 section (a), the program shall support research in high-

- 1 performance computing and networking relevant to energy
- 2 applications, including both basic and applied energy re-
- 3 search programs carried out by the Secretary.

Page 16, line 15, strike “maintain,”.

Page 17, line 15, insert “As part of this program, the Director shall carry out research activities to expand the fundamental understanding of plasmas and matter at very high temperatures and densities.” after “the United States.”.

Page 17, line 23, strike “180 days” and insert “1 year”.

Page 18, lines 7 through 15, strike paragraphs (2) and (3).

Page 18, line 4, redesignate paragraph (1) as paragraph (2).

Page 18, after line 3, insert the following new paragraph:

- 4 (1) identify specific areas of fusion energy de-
- 5 velopment in which the United States can and
- 6 should establish or solidify a lead in the global fu-
- 7 sion energy development effort; and

Page 18, line 6, strike the semicolon and insert a period.

Page 18, line 22, after “power plant.” insert “As part of the activities authorized under subsection (c), the Secretary shall—

- 1 (1) provide an assessment of the need for a fa-
- 2 cility or facilities that can examine and test potential
- 3 fusion and next generation fission materials; and
- 4 (2) provide an assessment of whether a single
- 5 new facility that substantially addresses magnetic
- 6 fusion, inertial fusion, and next generation fission
- 7 materials research needs is feasible, in conjunction
- 8 with the expected capabilities of facilities operational
- 9 as of the date of enactment of this Act.”

Page 19, line 5, strike “TECHNOLOGY”.

Page 19, line 16, insert “rare decay processes and” after “research activities on”.

Page 20, line 22, insert “accelerator” after “the most advanced”.

Page 22, line 25, strike “on an annual basis” and insert “, as part of the annual budget submission of the Department,”.

Page 24, line 8, strike "\$2,020,000" and insert "\$2,020,000,000".

Page 24, line 10, strike "\$700,000" and insert "\$700,000,000".

Page 24, line 13, strike "\$469,000" and insert "\$469,000,000".

Page 24, line 18, strike "\$2,220,000" and insert "\$2,220,000,000".

Page 24, line 20, strike "\$791,000" and insert "\$791,000,000".

Page 24, line 23, strike "\$515,000" and insert "\$515,000,000".

Page 25, line 3, strike "\$2,440,000" and insert "\$2,440,000,000".

Page 25, line 5, strike "\$894,000" and insert "\$894,000,000".

Page 25, line 8, strike "\$567,000" and insert "\$567,000,000".

Page 25, line 13, strike "\$2,690,000" and insert "\$2,690,000,000".

Page 25, line 15, strike "\$957,000" and insert "\$957,000,000".

Page 25, line 18, strike “\$624,000” and insert
“\$624,000,000”.

Page 25, line 23, strike “\$2,960,000” and insert
“\$2,960,000,000”.

Page 26, line 1, strike “\$1,060,000” and insert
“\$1,060,000,000”.

Page 26, line 4, strike “\$686,000” and insert
“\$686,000,000”.



AMENDMENT TO THE COMMITTEE PRINT
OFFERED BY MR. EHLERS OF MICHIGAN

Page 2, lines 4, 8, and 12, redesignate subsections (b) through (d) as subsections (c) through (e), respectively.

Strike page 1, line 16, through page 2, line 3, and insert the following:

1 SEC. 103. MISSION OF THE OFFICE OF SCIENCE.

2 (a) MISSION.—The mission of the Office of Science
3 shall be the delivery of scientific discoveries and major sci-
4 entific tools to transform the understanding of nature and
5 to advance the energy, economic, and national security of
6 the United States.

7 (b) DUTIES.—In support of this mission, the Sec-
8 retary shall carry out, through the Office of Science, pro-
9 grams on basic energy sciences, biological and environ-
10 mental research, advanced scientific computing research,
11 fusion energy sciences, high energy physics, and nuclear
12 physics through activities focused on—

13 (1) Science for Discovery to unravel nature's
14 mysteries through the study of subatomic particles,
15 atoms, and molecules that make of the materials of

1 our everyday world to DNA, proteins, cells, and en-
2 tire biological systems;

3 (2) Science for National Need by—

4 (A) advancing a clean energy agenda
5 through basic research on energy production,
6 storage, transmission, and use; and

7 (B) advancing our understanding of the
8 Earth's climate through basic research in at-
9 mospheric and environmental sciences and cli-
10 mate change; and

11 (3) National Scientific User Facilities to deliver
12 the 21st century tools of science, engineering, and
13 technology and provide the Nation's researchers with
14 the most advanced tools of modern science including
15 accelerators, colliders, supercomputers, light sources
16 and neutron sources, and facilities for studying the
17 nanoworld.



AMENDMENT TO THE COMMITTEE PRINT
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Page 4, lines 4 through 6, strike “to meet energy research, development, demonstration, and commercial application needs identified in” and insert “to conduct fundamental and use-inspired energy research to accelerate scientific breakthroughs related to needs identified in”.



AMENDMENT TO THE COMMITTEE PRINT
OFFERED BY MR. LIPINSKI OF ILLINOIS

Page 16, line 24, insert “public and private” after
“access by the”.

Page 17, after line 8, insert the following new sub-
section:

1 (f) OUTREACH.—The Director shall conduct outreach
2 programs and may form partnerships to increase the use
3 of and access to high-performance computing modeling
4 and simulation capabilities by industry, including manu-
5 facturers.



AMENDMENT TO THE COMMITTEE PRINT
OFFERED BY MR. GARAMENDI OF CALIFORNIA

Page 19, line 8, insert “Not later than 180 days after the release of a report from the National Academies on inertial fusion energy research, the Secretary shall transmit to Congress a report describing the Department’s plan to incorporate any relevant recommendations from the National Academies’ report into this program.” after “and laser fusion.”.



AMENDMENT TO THE COMMITTEE PRINT
OFFERED BY MR. LIPINSKI OF ILLINOIS

Page 23, line 1, insert “Each report shall include a summary of maintenance and infrastructure needs and associated funding requirements at each of the laboratories, including the amount of both planned and deferred infrastructure spending at each laboratory.” after “preceding fiscal year.”.



AMENDMENT TO THE COMMITTEE PRINT
OFFERED BY MR. LUJÁN OF NEW MEXICO

Page 33, line 4, strike “and”.

Page 33, line 9, strike the period and insert “; and”.

Page 33, after line 9, insert the following new paragraph:

1 (13) in subsection (o)(4)(B), as so redesignated
2 by paragraphs (3) and (12)(B) of this subsection—
3 (A) by striking “2.5 percent” and inserting
4 “5 percent”; and
5 (B) by inserting “, consistent with the goal
6 described in subsection (c)(2)(D) and within the
7 responsibilities of program directors as specified
8 in subsection (g)(2)(B)(vii)” after “outreach ac-
9 tivities”.

