

118TH CONGRESS
2D SESSION

S. 3954

To amend the Geothermal Steam Act of 1970 to promote timely exploration for geothermal resources under geothermal leases, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 14, 2024

Mr. HEINRICH (for himself, Mr. RISCH, Mr. LEE, and Ms. CORTEZ MASTO) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To amend the Geothermal Steam Act of 1970 to promote timely exploration for geothermal resources under geothermal leases, 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 “Geothermal Energy
5 Optimization Act”.

6 **SEC. 2. GEOTHERMAL PRODUCTION ON FEDERAL LAND.**

7 The Geothermal Steam Act of 1970 (30 U.S.C. 1001
8 et seq.) is amended by adding at the end the following:

1 **“SEC. 30. GEOTHERMAL OBSERVATION TEST PROJECTS.**

2 “(a) DEFINITIONS.—In this section:

3 “(1) CATEGORICAL EXCLUSION.—The term
4 ‘categorical exclusion’ has the meaning given the
5 term in section 111 of the National Environmental
6 Policy Act of 1969 (42 U.S.C. 4336e).

7 “(2) DOWNHOLE.—The term ‘downhole’ means
8 a well or borehole dug or drilled into the subsurface
9 of the earth for the purposes of resource confirma-
10 tion or potential use.

11 “(3) GEOTHERMAL OBSERVATION TEST
12 PROJECT.—The term ‘geothermal observation test
13 project’ means using geothermal technologies to drill
14 a test, monitor, calibration, or other similar type of
15 exploratory drilling process well for geothermal re-
16 sources on land for which the Secretary concerned
17 has issued a lease under this Act, that—

18 “(A) is carried out by the leaseholder;

19 “(B) causes an allowable amount of total
20 disturbance;

21 “(C) does not include any permanent
22 roads;

23 “(D) is developed—

24 “(i) with the deepest cemented casing
25 string less than 12 inches of downhole size
26 in diameter;

1 “(ii) in a manner that does not re-
2 quire off-road motorized access other than
3 to and from the well site along an identi-
4 fied off-road route;

5 “(iii) with temporary road access, if
6 needed to enable access to the geothermal
7 observation test project location, subject to
8 the requirement that—

9 “(I) construction of the tem-
10 porary road access is remediated as
11 close as reasonably practicable to
12 original condition following completion
13 of the geothermal observation test
14 project work; or

15 “(II) the temporary road access,
16 with any additional permanent im-
17 provements, is included as part of the
18 full review required under the Na-
19 tional Environmental Policy Act of
20 1969 (42 U.S.C. 4321 et seq.) if the
21 leaseholder intends to proceed with
22 geothermal energy use for—

23 “(aa) the production of elec-
24 tricity;

25 “(bb) industrial processes;

1 “(cc) agricultural processes;

2 “(dd) brine mineral extrac-
3 tion;

4 “(ee) direct heating and
5 cooling uses; or

6 “(ff) any combination of
7 items (aa) through (ee); and

8 “(iv) with the use of rubber-tired
9 digging or drilling equipment vehicles;

10 “(E) is completed in less than 120 days—

11 “(i) including the removal of any sur-
12 face infrastructure from the site, unless—

13 “(I) the leaseholder conducting
14 the geothermal observation test
15 project submits to the Secretary con-
16 cerned by not later than 60 days after
17 the date of first exploration drilling
18 an extension request for additional
19 time to complete the observation
20 project, in which the request provides
21 justification indicating why granting
22 an extension is necessary; and

23 “(II) the Secretary concerned
24 grants an extension under subclause
25 (I), if requested; or

1 “(ii) not including removal of any sur-
2 face infrastructure from the site so long as
3 the geothermal developer intends to pro-
4 ceed with resource development directly
5 following the test phase of the project and
6 into processes required under the National
7 Environmental Policy Act of 1969 (42
8 U.S.C. 4321 et seq.); and

9 “(F) requires the restoration of the project
10 site as part of any new review required under
11 the National Environmental Policy Act of 1969
12 (42 U.S.C. 4321 et seq.) within 3 years of the
13 date of first exploration drilling to approxi-
14 mately the condition that existed at the time
15 the project began, unless the site is subse-
16 quently used as part of energy development
17 under the lease.

18 “(4) GEOTHERMAL TECHNOLOGY.—The term
19 ‘geothermal technology’ means technology designed
20 to extract heat from the subsurface of the earth and
21 that is used to drill—

22 “(A) hydrothermal project test wells;

23 “(B) enhanced geothermal system moni-
24 toring wells;

1 “(C) closed loop geothermal system cali-
2 bration wells; and

3 “(D) similar types of subsurface disturb-
4 ances through non-production wells to assess
5 the viability of the heat resources of the earth.

6 “(5) SECRETARY CONCERNED.—The term ‘Sec-
7 retary concerned’ means—

8 “(A) the Secretary of Agriculture, with re-
9 spect to National Forest System land; and

10 “(B) the Secretary, with respect to public
11 lands.

12 “(6) SURFACE INFRASTRUCTURE.—The term
13 ‘surface infrastructure’ means all equipment, mate-
14 rials, facilities, and other items used in the drilling
15 of a geothermal observation test project.

16 “(7) TOTAL DISTURBANCE.—

17 “(A) IN GENERAL.—The term ‘total dis-
18 turbance’ means a geothermal observation test
19 project that causes not more than 10 acres of
20 disturbance from—

21 “(i) soil or vegetation disruption at
22 the location of each geothermal observation
23 test project; and

1 “(ii) soil or vegetation disruption dur-
2 ing access or egress to the geothermal ob-
3 servation test project site.

4 “(B) ALLOWANCE.—

5 “(i) MULTIPLE PROJECTS.—For in-
6 stances of multiple geothermal observation
7 test projects, the acres of total disturbance
8 allowed shall—

9 “(I) be equal to the total number
10 of geothermal observation test
11 projects multiplied by 10 acres; and

12 “(II) not exceed 100 total acres.

13 “(ii) ACCESS OR EGRESS.—For soil or
14 vegetation disruption during access or
15 egress to a geothermal observation test
16 project site, the acres of total soil or vege-
17 tation disruption allowed shall be equal to
18 the acres of total disturbance allowed
19 minus the acres of soil or vegetation dis-
20 ruption caused by the geothermal observa-
21 tion test project.

22 “(b) CATEGORICAL EXCLUSION.—

23 “(1) IN GENERAL.—Not later than 1 year after
24 the date of enactment of this section, the Secretary

1 concerned shall develop a categorical exclusion for
2 geothermal observation test projects.

3 “(2) ADMINISTRATION.—In developing and ad-
4 ministering the categorical exclusion under para-
5 graph (1), the Secretary concerned shall—

6 “(A) comply with the National Environ-
7 mental Policy Act of 1969 (42 U.S.C. 4321 et
8 seq.); and

9 “(B) apply any applicable extraordinary
10 circumstance under section 46.215 of title 43,
11 Code of Federal Regulations (or successor regu-
12 lations), in determining whether to use the cat-
13 egorical exclusion.

14 “(c) PROCESS.—

15 “(1) REQUIREMENT TO PROVIDE NOTICE.—A
16 leaseholder shall provide notice to the Secretary con-
17 cerned of the intent of the leaseholder to carry out
18 a geothermal observation test project at least 60
19 days before the start of drilling under the project.

20 “(2) REVIEW AND DETERMINATION.—Not later
21 than 30 days after receipt of a notice of intent
22 under paragraph (1) that contains sufficient infor-
23 mation to evaluate the qualifications of the project
24 for an applicable categorical exclusion, the Secretary

1 concerned shall, with respect to the project described
2 in the notice of intent—

3 “(A) determine if the project qualifies for
4 a categorical exclusion under subsection (b);

5 “(B) notify the leaseholder of such deter-
6 mination; and

7 “(C) administer the categorical exclusion
8 for a geothermal observation test project, sub-
9 ject to the condition that—

10 “(i) the project meets the specified
11 criteria for the categorical exclusion; and

12 “(ii) the Secretary determines that no
13 extraordinary circumstance exists under
14 which a normally excluded action or
15 project may have a significant effect.

16 “(3) OPPORTUNITY TO REMEDY.—If the Sec-
17 retary concerned determines under paragraph (2)(A)
18 that the project does not qualify for a categorical ex-
19 clusion under subsection (b), the Secretary con-
20 cerned shall—

21 “(A) include in such notice clear and de-
22 tailed findings on any deficiencies in the project
23 that resulted in such determination; and

24 “(B) allow the leaseholder not less than 60
25 days after receiving notice under subparagraph

1 (A) to remedy any deficiencies and resubmit the
2 notice of intent under paragraph (1).”.

3 **SEC. 3. REVIEW OF GEOTHERMAL EXPLORATION OR DE-**
4 **VELOPMENT ACTIVITIES.**

5 Section 390 of the Energy Policy Act of 2005 (42
6 U.S.C. 15942) is amended—

7 (1) in subsection (a)—

8 (A) by inserting “(30 U.S.C. 181 et seq.)
9 or the Geothermal Steam Act of 1970 (30
10 U.S.C. 1001 et seq.)” after “Mineral Leasing
11 Act”; and

12 (B) by striking “oil or gas” and inserting
13 “oil, gas, or geothermal energy resource well”;

14 (2) in subsection (b)—

15 (A) in paragraph (1), by inserting “, and
16 less than 10 acres for the purposes of geo-
17 thermal,” after “less than 5 acres”;

18 (B) in paragraph (2), by striking “oil or
19 gas well” and inserting “oil, gas, or geothermal
20 resource well”;

21 (C) in paragraph (3), by striking “oil or
22 gas well within a developed field” and inserting
23 “oil, gas, or geothermal energy resource well
24 within a developed field or area”;

1 (D) by redesignating paragraph (5) as
2 paragraph (6); and

3 (E) by inserting after paragraph (4) the
4 following:

5 “(5) For the purposes of geothermal, placement
6 of an electrical transmission line or a distribution
7 line of not more than 20 miles in length in an ap-
8 proved right-of-way corridor, so long as the corridor
9 was approved within 5 years prior to the date of
10 placement of the transmission or distribution line.”.

11 **SEC. 4. LEASING PROCEDURES UNDER THE GEOTHERMAL**
12 **STEAM ACT.**

13 Section 4 of the Geothermal Steam Act of 1970 (30
14 U.S.C. 1003) is amended—

15 (1) in subsection (b)—

16 (A) in paragraph (2), by striking “every 2
17 years” and inserting “every year”; and

18 (B) by adding at the end the following:

19 “(5) REPLACEMENT SALES.—If a lease sale
20 under this section for a year is cancelled or delayed,
21 the Secretary shall conduct a replacement sale dur-
22 ing the same year.”; and

23 (2) in subsection (d), by adding at the end the
24 following:

1 “(3) DEADLINE.—The Secretary, and the Sec-
2 retary of Agriculture with respect to National Forest
3 System land, shall issue a decision for a submitted
4 application described in paragraph (1) not later than
5 60 days after the application is submitted.”.

6 **SEC. 5. GEOTHERMAL OMBUDSMAN AND STRIKE TEAM.**

7 (a) DEFINITIONS.—In this section:

8 (1) DIRECTOR.—The term “Director” means
9 the Director of the Bureau of Land Management.

10 (2) GEOTHERMAL OMBUDSMAN.—The term
11 “Geothermal Ombudsman” means the Geothermal
12 Ombudsman appointed under subsection (b).

13 (3) GEOTHERMAL STRIKE TEAM.—The term
14 “Geothermal Strike Team” means the Geothermal
15 Strike Team established under subsection (c).

16 (4) SECRETARY.—The term “Secretary” means
17 the Secretary of the Interior.

18 (b) GEOTHERMAL OMBUDSMAN.—

19 (1) APPOINTMENT.—Not later than 60 days
20 after the date of enactment of this Act, the Sec-
21 retary shall appoint within the Bureau of Land
22 Management a Geothermal Ombudsman to report
23 directly to the Director.

24 (2) DUTIES.—The Geothermal Ombudsman
25 shall—

1 (A) act as a liaison between the individual
2 field offices of the Bureau of Land Manage-
3 ment and the Director;

4 (B) improve—

5 (i) the performance of the permitting
6 process for geothermal energy resource
7 wells; and

8 (ii) regional coordination of the field
9 offices of the Bureau of Land Manage-
10 ment;

11 (C) provide dispute resolution services be-
12 tween the individual field offices of the Bureau
13 of Land Management and applicants for drilling
14 geothermal energy resource wells;

15 (D) help Federal, State, and Tribal depart-
16 ments and agencies make the permitting and
17 leasing process for geothermal energy resource
18 wells efficient, orderly, and responsive;

19 (E) develop best practices and templates
20 for the permitting and leasing process for geo-
21 thermal energy resource wells;

22 (F) coordinate with the Federal Permitting
23 Improvement Steering Council established by
24 section 41002 of the FAST Act (42 U.S.C.

1 4370m–1) and other task forces, as needed, on
2 overlapping duties and responsibilities; and

3 (G) identify potential statutory and regu-
4 latory changes based on input from the indi-
5 vidual field offices of the Bureau of Land Man-
6 agement, the Geothermal Strike Team, and
7 other stakeholders, as determined by the Sec-
8 retary.

9 (3) LIMITATION.—

10 (A) SUPPORT.—In carrying out the duties
11 of the Geothermal Ombudsman under para-
12 graph (2), the Geothermal Ombudsman shall
13 use personnel, funding, logistics, and other re-
14 sources of the Bureau of Land Management, to
15 the extent determined by the Director.

16 (B) EFFECT.—Nothing in this subsection
17 replaces, alters, or diminishes the activities of
18 any ombudsman or similar office of any other
19 agency.

20 (c) GEOTHERMAL STRIKE TEAM.—

21 (1) ESTABLISHMENT.—Not later than 60 days
22 after the date of enactment of this Act, the Sec-
23 retary shall establish within the Bureau of Land
24 Management a task force, to be known as the “Geo-

1 thermal Strike Team”, which shall report directly to
2 the Director.

3 (2) DUTIES.—The Geothermal Strike Team
4 shall support the Geothermal Ombudsman—

5 (A) with implementation and continuous
6 improvement of best practices relating to per-
7 mitting for and leasing of geothermal energy re-
8 source wells;

9 (B) with providing direct technical assist-
10 ance to applicants in field offices of the Bureau
11 of Land Management, as requested; and

12 (C) with coordinating with Federal, State,
13 Tribal, and local governments, and among State
14 agencies, on project review, permitting, and ap-
15 provals for geothermal energy resource wells.

16 (3) MEMBERS.—The Geothermal Strike Team
17 shall be composed of members of the Bureau of
18 Land Management selected by the Director, in con-
19 sultation with the Secretary, who may consult
20 with—

21 (A) institutions of higher education (as de-
22 fined in section 101(a) of the Higher Education
23 Act of 1965 (20 U.S.C. 1001(a)));

1 (B) members from the National Labora-
2 tories (as defined in section 2 of the Energy
3 Policy Act of 2005 (42 U.S.C. 15801));

4 (C) private entities, as determined by the
5 Director, with expertise in data modeling and
6 analysis; and

7 (D) other experts, as determined by the
8 Director.

9 (4) LIMITATION.—

10 (A) SUPPORT.—In carrying out the duties
11 of the Geothermal Strike Team under para-
12 graph (2), the Geothermal Strike Team may
13 use personnel, funding, logistics, and other re-
14 sources of the Bureau of Land Management, to
15 the extent determined by the Director.

16 (B) EFFECT.—Nothing in this subsection
17 replaces, alters, or diminishes the activities of
18 any similar office of any Federal agency.

19 (d) REPORTS.—

20 (1) ANNUAL REPORT.—The Geothermal Om-
21 budsman and the Geothermal Strike Team shall
22 jointly submit to the Committee on Energy and Nat-
23 ural Resources of the Senate, the Committee on En-
24 ergy and Commerce of the House of Representa-
25 tives, and the Director an annual report that de-

1 scribes the activities and evaluates the effectiveness
2 of the Geothermal Ombudsman and Geothermal
3 Strike Team during the preceding 1-year period.

4 (2) ADDITIONAL REPORTS.—In addition to the
5 annual report required under paragraph (1), the
6 Geothermal Ombudsman and Geothermal Strike
7 Team shall submit to the Director any additional re-
8 ports, as determined by the Director.

9 (3) REQUEST.—The Geothermal Ombudsman
10 and the Geothermal Strike Team shall, on request,
11 submit the reports described in paragraphs (1) and
12 (2) to any Member of Congress.

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