Statement of

Tim Spisak

State Director for New Mexico, Oklahoma, Texas and Kansas
Bureau of Land Management
U.S. Department of the Interior
Senate Committee on Energy and Natural Resources

Hearing on
"Opportunities and Challenges for Advancement of Geothermal Energy in the United States."

June 20, 2019

Chairman Murkowski, Ranking Member Manchin, and Members of the Committee, I am pleased to join you today to discuss the Bureau of Land Management (BLM)'s role in responsibly developing the Nation's geothermal energy resources.

The Administration is committed to developing a diverse portfolio of energy resources, including oil and gas, coal, and renewable energy resources such as wind, geothermal, and solar – all of which may be developed on America's public lands. This approach strengthens American energy security, supports job creation, and strengthens America's energy infrastructure. Geothermal is an important piece of this strategy. Federal resources administered by the BLM provided over 40 percent of the Nation's total geothermal energy capacity in Fiscal Year 2018.

Background

Replenished by heat sources deep within the Earth, geothermal energy is an important energy resource that generates electricity with minimal carbon emissions. Geothermal energy is used to heat buildings, operate greenhouses, and to support aquaculture operations. It is an abundant resource, especially in the western United States. Geothermal energy was the first form of renewable energy that the BLM approved for production on public lands, with 2018 marking four decades since the first approved geothermal project in 1978.

Existing Regulatory Framework

Until the passage of the Geothermal Steam Act of 1970 (30 U.S.C. 1001), geothermal energy was regarded legally as a groundwater resource. The law defined geothermal resources as steam, hot water, and hot brines, indigenous to the geology or generated from introduced fluids, associated heat energy, and any byproducts. It also authorized the Secretary of the Interior to issue leases for the development and utilization of geothermal resources on lands managed by the Department of the Interior and the U.S. Forest Service. These leases were only competitive within "known geothermal resource areas." This placed geothermal in the context of Federal mineral leasing, like oil and gas, though some States still regard geothermal energy as a water

resource. Amendments to this regulatory system were made in the 1980s and the 2000s. Of particular note, the Energy Policy Act of 2005 directed that revenues from geothermal electricity generation on Federal public lands would be shared, with 50 percent going to the State, 25 percent going to the county, and the remainder to the U.S. Treasury. The President's Fiscal Year 2020 Budget proposes repealing the 25 percent earmarked for counties, returning $40 million over ten years to the Treasury.

The BLM is required to manage the impacts of geothermal operations on public lands under the Federal Land Policy and Management Act and the National Environmental Policy Act (NEPA). Also, amendments to the Geothermal Steam Act expressly protect certain important geothermal features, like Old Faithful, in National Parks, including: Yellowstone, Mount Rainier, Crater Lake, the John D. Rockefeller, Jr. Memorial Parkway, Hot Springs, and Hawai'i Volcanoes. The BLM must ensure that proposed geothermal development does not harm these features.

Geothermal Operations on Public Lands

Nearly all of the potential for development of Federal geothermal energy is located in 11 western States and Alaska. Technologies currently being researched, such as Enhanced Geothermal Systems and closed-loop deep geothermal, would allow for the responsible development of geothermal almost anywhere. The BLM manages more than 240 million acres of public lands open to geothermal leasing, including 104 million acres of Forest Service-managed lands. The BLM currently manages over 800 geothermal leases, 50 of which are in production. Together these leases generate almost 1,900 megawatts of electrical capacity, representing about 40 percent of the total U.S. geothermal energy generated. For comparison, Hoover Dam has just over 2,000 megawatts of capacity.

California is by far the largest producer of geothermal energy on BLM-managed public lands. Ongoing rent and royalties from current operations in California generate $7.85 million per year. Located in northern California, The Geysers is the largest geothermal field in the world, hosting a complex of power plants producing approximately 800 megawatts of electricity. The Geysers also provides hundreds of full-time jobs. Overall, the BLM in California hosts 11 geothermal power plants, including The Geysers in Lake, Colusa, and Sonoma counties, Ormesa in Imperial County, Coso in Inyo County, and Casa Diablo in Mono County. Public lands in California have the potential to generate an estimated 4,000 megawatts of electricity from geothermal development. The BLM is working to provide leasing in the Haiwee area in Inyo County, for an additional power plant at Casa Diablo, and in the Truckhaven area of Imperial County. The BLM is also processing geothermal nominations for leasing in Modoc, Shasta, and Siskiyou counties.

There has also been a notable expansion of geothermal exploration on public lands in Nevada. As a result, Nevada has the most leased acreage and has generated the most bonus bids for the

U.S. taxpayer – over $50 million between 2007 and 2018. Notably, ongoing rent and royalties from current operations on public lands within the State of Nevada generated $5.2 million in 2018 alone. Within Nevada, the BLM administers 19 geothermal power plants with Federal interest, totaling over 600 megawatts of installed capacity, and is in the planning or permitting process for over 400 megawatts of new geothermal power plants. Nevada is also preparing 150 parcels across the state for an upcoming competitive geothermal lease sale.

Regulatory Streamlining

Currently, each geothermal project requires separate environmental review under NEPA at both the exploratory phase, as well as when the resource is to be utilized. Under Secretarial Order 3355, *Streamlining National Environmental Policy Reviews*, the BLM has improved the environmental review process for all energy development projects, including geothermal. The Department of Energy's GeoVision report has also found that improved regulatory timelines for the drilling of exploratory wells could reduce the administrative costs of geothermal development on public lands and spur new development. Drilling exploratory wells is expensive and more technically demanding than conventional oil and gas wells, and exploration necessarily carries financial risk for the driller. Offsetting administrative costs from this phase has the potential to expand the development of current leases and encourage bidding on new leases. BLM is exploring opportunities to further streamline NEPA reviews and other permitting processes to facilitate greater use of these important resources.

Conclusion

Expanded geothermal energy development carries impressive benefits for the Nation. It would diversify our overall energy portfolio, reduce carbon dioxide emissions, and advance the Administration's policy of developing domestic energy resources responsibly. Thank you for the opportunity to testify today. I would be happy to answer any questions.