State of Utah

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Submitted via electronic mail: https://eplanning.blm.gov/eplanning-ui/project/2021749/510

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Re: **FERVO Energy, Cape Modern Geothermal Exploration Plan**
DOI-BLM-UT-C010-2023-0004-EA
RDCC Project No. 85173

Dear Mr. Briggs:

The state of Utah ("State") has reviewed the Cape Modern Geothermal Exploration Project ("CMGEP") Environmental Assessment ("EA") and supports the proposed action in Beaver County that includes the drilling and testing of up to 29 geothermal wells, reservoir monitoring and characterization activities, and access road construction. The Area of Interest ("AOI") for the proposed project consists of approximately 5,641 acres of federal geothermal leases (previously offered by competitive bidding in 2020) and two split-estate private geothermal leases located north-northeast of Milford in Beaver County, Utah within the Milford Renewable Energy Corridor. The project area selected for the CMGEP encompasses approximately 293 acres of BLM surface primarily located within the existing geothermal leaseholds.

Utah encourages the responsible and appropriate development/use of natural resources to promote economic development for the benefit of its citizenry[1] and to support the State's energy plan.[2] Geothermal energy is a reliable source of renewable energy and good for the

[1] *See* Resource Development Act, Utah Code § 63M-5-102(1)(a), *available at:* https://le.utah.gov/xcode/Title63M/Chapter5/63M-5-S102.html.
[2] *See* Utah State Resource Management Plan, pp. 70–71. Electronic document, https://rmp.utah.gov/state-of-utah-resource-management-plan/.

environment. The benefits of geothermal energy will play a significant role in Utah's economic prosperity and sustainability, especially for counties and local communities. Therefore, in support of the CMGEP the State offers the following comments for your consideration through its Public Lands Policy Coordinating Office ("PLPCO").

Previously, the State (through PLPCO and the Utah Division of Wildlife Resources or "UDWR") provided Madison Peters, Groundwater & Environmental Services, Inc., Lewisville, Texas, the attached early coordination review comments of the proposed geothermal exploration project October 11, 2022. The State also submitted comments dated October 1, 2020 in support of the related lease sale that occurred in December 2020. The State hereby incorporates those comments by reference as if stated herein in full.

I. UTAH PUBLIC LANDS POLICY COORDINATING OFFICE

While not specifically requested in the EA, this comment letter begins with a brief description of the commenter's mission and areas of expertise. Here, the commenter, PLPCO, is a State agency, whose broad mission is "to coordinate, promote, and implement Utah's public land priorities."[3] In addition to "develop[ing] and coordinat[ing] the State's public lands policy initiatives"[4] PLPCO is also involved in many different facets of public land management policy, including overseeing the State's Resource Development Coordinating Committee ("RDCC") which is "responsible for commenting on development and conservation proposals on Utah's public lands"[5] as well as assisting in resource management planning at the State and County levels.[6] Because of PLPCO's broad mission and expertise, the agency is involved in various issues and projects that include renewable energy development on federal lands (among other things).

II. COORDINATION / CONSISTENCY REQUIREMENTS OF RESOURCE MANAGEMENT PLANNING

On a further introductory note, it is important to highlight the fact that under the Federal Land Policy and Management Act ("FLPMA"), when developing or creating Resource Management Plans, federal agencies, such as the Bureau of Land Management ("BLM"), are required to coordinate their plans with state and local government plans.[7] This coordination process is a separate process from cooperation and must occur regardless of whether state or local governments were designated as Cooperating Agencies.[8] Thus, even if the State is not a Cooperating Agency in any given planning process (which it often is), the agency would still be

[3] PLPCO, *About the Public Lands Office*, Utah's Public Lands Policy Coordinating Office, *available at:* https://publiclands.utah.gov/about/ (2021).
[4] *Id.*
[5] *Id.*
[6] PLPCO, *Resource Management Plans*, Utah's Public Lands Policy Coordinating Office, *available at:* https://publiclands.utah.gov/current-projects/resource-management-plans/ (2021).
[7] FLPMA 202(c)(9)
[8] Utah State Resource Management Plan (Utah SRMP), pp. 9, *available at:* https://rmp.utah.gov/state-of-utah-resource-management-plan/ (2018).

required to make efforts in drafting land use plans that are consistent with state and local plans.

In addition to the Coordination requirement listed above, the BLM has the responsibility in the development of land use plans to ensure that consideration is given to the applicable state, local, and tribal plans "and to resolve, to the extent practical, inconsistencies between Federal and non-Federal Government plans."[9] Specifically, FLPMA states that BLM Land Use Plans "shall be consistent with State and local plans to the maximum extent [the Agency] finds consistent with Federal law and the purposes of this Act."[10] The National Forest Management Act ("NFMA") contains a similar requirement, stating that U.S. Forest Service ("USFS") Forest Plans be "coordinated with the land and resource management planning processes of State and local governments and other Federal agencies."[11]

In years past there were no state or local plans with which to ensure consistency. However, as of 2018, the State of Utah[12] has adopted a State Resource Management Plan ("SRMP") and all twenty-nine (29) counties in the State have adopted County Resource Management Plans ("CRMPs")[13]. The effort to adopt the SRMP and CRMPs "was a first-of-its-kind effort not only in Utah, but nationwide. The state and the counties frequently use their plans to coordinate management actions with the Bureau of Land Management and U.S. Forest Service."[14] These RMPs include policies for many aspects of public land management, including those related to renewable energy and energy infrastructure development. These relevant State and County Resource Management Plans (and their applicability to the CMGEP) are discussed below, and the State now specifically requests that under the Coordination and Consistency requirements of FLPMA, that any and all land-use actions taken by the BLM that occur as a result of this Proposed Rule be consistent with the Utah State Code, the Utah SRMP and Utah's CRMPs to the greatest degree possible (as it relates to federal lands within the State). The relevant portions of each of these Resource Management Plans ("RMP") related to the current EA are discussed below where appropriate.

III. STATE ENERGY / GEOTHERMAL POLICY

A. Geothermal Energy

Several characteristics of geothermal energy make it not only an extremely reliable source of renewable energy, but also a boon for the environment. First, geothermal energy — geo (earth) + thermal (heat)— is literally heat energy from the earth's core harnessed by drilling deep wells into underground reservoirs, tapping steam and hot water that is brought to the

[9] *Id.* at 8.
[10] 43 U.S.C. §1712(c)(9).
[11] 16 U.S.C. §1604(a).
[12] Utah State Resource Management Plan ("Utah SRMP"), pp. 1, *available at:* https://rmp.utah.gov/state-of-utah-resource-management-plan/ (2018).
[13] PLPCO, *Resource Management Plans by County*, Utah's Public Lands Policy Coordinating Office, *available at:* https://rmp.utah.gov/county-resource-plans/ (2021).
[14] PLPCO, *Resource Management Plans*, Utah's Public Lands Policy Coordinating Office, *available at:* https://publiclands.utah.gov/current-projects/resource-management-plans/ (2021).

surface for various applications, including electricity generation.[15] By properly managing the underground reservoir, the rate of water/steam extraction can be balanced with the natural heat recharge rate of the reservoir, making it a truly renewable energy source.[16] Second, a geothermal power plant has a small land-use footprint compared to other energy sources, and uses less land per GWh produced than coal, wind or solar.[17] This small footprint allows for other uses consistent with the energy goals and policies of the State, Millard, Iron and Beaver Counties, and the BLM's multiple-use mandate. Third, geothermal energy is extremely clean. A modern closed-loop geothermal power plant emits no greenhouse gasses and consumes less water than other traditional electricity generation technologies.[18]

While being an environmentally friendly and renewable source of energy, because geothermal energy relies "on earth's constant temperature, geothermal energy is a continuously available renewable resource. Since it is a continual resource, geothermal energy is the only renewable resource that offers base-load electricity generation in the absence of energy storage."[19] Because it is a base load resource, not only is geothermal power reliable, but it also helps to stabilize energy prices. Further, because geothermal does not require the purchase of fuel it is less taxing on critical earth resources, which can used for other forms of clean energy capture and storage.

Unlike other renewable sources of energy (wind, solar, &c.), electricity from geothermal generation can be available to the electricity grid 24/7, regardless of weather conditions. This makes geothermal very "dispatchable", meaning that it can be ramped up or down quickly to make up for intermittency caused by other renewable energy resources. These characteristics together make geothermal one of the most stable sources of renewable energy currently available.

The United States currently leads the world in geothermal electricity generation, with 17 billion kilowatthours (kWh) (or 0.4% of total U.S. utility-scale electricity generation) as of 2020.[20] All of the United States' current geothermal electric power generation comes from only seven states, all of which are located in the Western U.S.[21] Of those seven states, Utah is ranked third for geothermal generation.[22] Most of Utah's known moderate and high temperature hydrothermal-geothermal systems occur in a region of southwestern Utah known as the Sevier Thermal Area ("STA").[23] It's estimated that the STA "contains an estimated 1,900 MW of

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[15] U.S. DOE, *Geothermal Basics,* U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, *available at:* https://www.energy.gov/eere/geothermal/geothermal-basics (2021).
[16] *Id.*
[17] *Id.*
[18] *Id.*
[19] State of Utah Resource Management Plan at 73.
[20] EIA, *Geothermal Explained,* U.S. Energy Information Administration, *available at:* https://www.eia.gov/energyexplained/geothermal/use-of-geothermal-energy.php (2021).
[21] *Id.*
[22] *Id.*
[23] Millard County, Millard County Resource Management Plan at 361, *available at:* https://rmp.utah.gov/wp-

potential energy from both 'identified' and 'undiscovered'" geothermal sources.[24] The STA itself is centered on the Roosevelt Hot Springs and Cove Fort-Sulphurdale Known Geothermal Resource Areas ("KGRAs"). While Millard County makes up the bulk of the STA,[25] a large portion falls in neighboring Beaver County, where all of the subject parcels of this EA lie.

In addition to the renewable and base-load benefits described above, geothermal energy plays a significant role in Utah's economic prosperity and sustainability. For starters, over time, geothermal is a lower cost energy source that diversifies the energy supply and supports the stability of the power grid. Over its lifetime, the average cost of a geothermal plant is dramatically lower than that of many traditional power sources, in turn lowering energy costs for consumers. Not to mention, exploration and development of geothermal energy involves, directly and indirectly, hundreds of individuals and creates jobs that pay well, which helps the state and counties meet their goals of protecting and expanding the tax base, promoting economic activity to raise the standard of living, and providing necessary services to citizens and visitors alike.

The socio-economic benefits are especially acute for counties and local communities. For example, the Blundell geothermal facility near Milford, Utah was the first geothermal electric plant outside the state of California and has provided employment and economic benefits to the region since 1984.[26] Similarly, the 25MW Cove Fort geothermal operation has powered approximately 13,000 homes since it was reopened in 2013,[27] and provides jobs to workers in Beaver and Millard Counties. In addition to reliable energy and job creation, since the "enactment of the 2005 Geothermal Steam Act Amendments, 25 percent of federal geothermal revenues from leasing and production on federal lands are allotted to state and local governments"[28] flowing directly to schools and other essential services. In sum, the environmental and socio-economic benefits together make geothermal energy a very attractive energy source for Utahns, which has positively affected Utah's geothermal energy policy.

B. Utah's "Any-Of-The-Above" Energy Approach

Overall, the State supports geothermal energy production and related development, as "Utah is an 'any-of-the-above' energy state"[29] meaning "there is room for all types of energy production and distribution"[30] both conventional and renewable. To date, this all-of-the-above

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content/uploads/Millard-County-RMP-2017.pdf (2017).

[24] Beaver County, *Beaver County, Utah Resource Management* Plan at 22, *available at:* https://rmp.utah.gov/wp-content/uploads/Beaver-CRMP_Final_Amended-12.17.19.pdf (2019).

[25] Millard CRMP at 361.

[26] Utah SRMP at 73.

[27] *Id.*

[28] *Id.* at 74.

[29] OED, *Utah Energy and Innovation Plan,* Utah Office of Energy Development, *available at:* https://energy.utah.gov/plan/ (2022).

[30] Thom Carter, *Why expanding renewable energy means more mining, not less,* Deseret News, *available at:* https://www.deseret.com/2021/4/7/22360352/keep-it-in-the-ground-energy-policy-renewable-traditional-wind-solar-batteries-critical-minerals (2021).

energy policy has served Utahns well,[31] and the State supports all reasonable forms of energy development and generation available within its borders.

As evidence of the success of this policy, Utah currently generates more electricity than it consumes, and the state is a net supplier of power to other states.[32] As of 2020, coal fueled 61% of Utah's total electricity net generation, down from 75% five years earlier, and natural gas accounted for 25%. Almost all of the rest of Utah's in-state electricity generation came from renewable energy sources, primarily solar power.[33] This trend is expected to continue, and Utah's Strategic Energy Plan anticipates natural gas-fired generation will replace coal and will back up intermittent renewables like wind and solar power.[34] In fact, no new coal-fired generators have been built in the state since 1993, but about 60 natural gas-fired units have been put into service since then.[35] As part of its overarching policy, the State is committed to continuing to diversify its energy portfolio and has adopted a voluntary goal of obtaining 20 percent of its adjusted retail electric sales from renewable energy resources by 2025.[36] In fact, about 97% of Utah's electric generating capacity added since 2015 is powered by solar energy.[37]

However, due to the intermittent characteristics of some forms of renewable energy (wind, solar, &c.), there is still a need for electricity generation that can be available to the electricity grid 24/7, regardless of weather conditions. This need for "dispatchable" energy - meaning energy that can be ramped up or down quickly to make up for intermittency caused by other renewable energy resources - is highlighted by current events.

As shown by actions taken by the Biden Administration[38] (and subsequent litigation)[39] there is a push by the current President to "tackle" climate change by shifting away from traditional energy sources such as oil and gas. As the United States tackles climate change by transitioning to low-carbon energy resources, it is imperative that baseload and dispatchable energy sources (such as natural-gas) remain viable and online. If fossil-fueled energy systems are retired at a pace that is greater than renewable projects are brought online, then our nation

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[31] *Id.*
[32] EIA, *Utah – State Energy Profile Analysis,* U.S. Energy Information Administration, *available at:* https://www.eia.gov/state/analysis.php?sid=UT (2021); *citing* U.S. EIA, Utah Electricity Profile 2019, Table 10, Supply and disposition of electricity, 1990 through 2019.
[33] *Id.; citing* U.S. EIA, Electricity Data Browser, Net generation for all sectors (thousand megawatthours), Utah, 2001-20.
[34] *Id.; citing* Utah Governor's Office, Energy Initiatives and Imperatives: Utah's 10-Year Strategic Energy Plan 2.0, updated February 2014, p. 25-26.
[35] *Id. citing* U.S. EIA, Preliminary Monthly Electric Generator Inventory (based on Form EIA-860M as a supplement to Form EIA-860), Inventory of Operating Generators as of December 2020, Plant State: Utah, Technology: Natural Gas.
[36] *Id.; citing* NC Clean Energy Technology Center, DSIRE, Utah, Renewable Portfolio Goal, updated July 3, 2018.
[37] *Id. citing* U.S. EIA, Preliminary Monthly Electric Generator Inventory (based on Form EIA-860M as a supplement to Form EIA-860), Inventory of Operating Generators as of December 2020, Plant State: Utah, Technology: Select All.
[38] E.O. 14008 of Jan 27, 2021.
[39] *Louisiana, et al. v. Biden,* CIV. NO. 2:21-CV-00778-TAD-KK.

almost certainly will experience a host of adverse effects due to insufficient energy – rolling blackouts or system failures causing death by exposure to extreme temperatures, and exorbitant energy bills which unfairly burden individuals, businesses, and local governments.

For example, just last winter, a severe storm caused wellheads and pipelines to freeze in Texas, which resulted in blackouts across the state and natural gas prices to skyrocket throughout the Midwest, possibly because of market manipulation. Millions of U.S. citizens were affected.[40] The same scenario, or one characterized by acute heat,[41] could playout anywhere in the United States. In fact, if climate change causes extreme weather events to be more frequent and more intense,[42] then we must expect more severe storms and heatwaves in the foreseeable future.

With this expectation in mind, again it is critical to remember that if we reduce our reliance on fossil fuel energy systems at a pace that is greater than renewable projects are developed, and without the necessary baseload and dispatchable energy sources (such as natural gas) remaining viable and online, then we must expect these extreme weather events to wreak even more havoc on the environment and human life. Energy, regardless of its source, plays a significant role in ameliorating the deleterious effects of severe meteorological phenomena on human life. Unfortunately, the possibility of energy shortfalls is conceivable as our Nation and some of its states attempt to aggressively cut fossil fuel use by, among other things, pulling permits for crude oil pipelines,[43] denying access to state lands for interstate natural gas pipelines,[44] and pausing oil and gas lease sales on public lands and in offshore waters.[45] These cuts should only made (if at all) after alternative energy sources are in place.

If President Biden is correct that the "signs [of climate change] are unmistakable, the science is undeniable, and the cost of inaction keeps mounting",[46] and if our Nation truly is "not

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[40] Christopher M. Matthews, "Far From Texas, Huge Gas Bills Stoke Anger After February Freeze" (*Wall Street Journal*, June 27, 2021). Available at https://www.wsj.com/articles/far-from-texas-huge-gas-bills-stoke-anger-after-february-freeze-11624786202?mod=djem_EnergyJournal.

[41] Grid, "Rolling Blackouts Hit Parts of Northwest Amid Heat Wave" (*Energy Wire*, June 30, 2021). Available at https://www.eenews.net/energywire/2021/06/30/stories/1063736119?utm_campaign=edition&utm_medium=email&utm_source=eenews%3Aenergywire.

[42] Environmental Protection Agency, *Climate Change Indicators: Weather And Climate* (Environmental Protection Agency, May 12, 2021). Available at https://www.epa.gov/climate-indicators/weather-climate.

[43] Joseph R. Biden, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* Executive Order 13990 at Section 6. Federal Register 86(14): 7041, 7037-7043 Available at https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/.

[44] Brent Kendall and Timothy Puko, "Supreme Court Rules New Jersey Can't Block Natural-Gas Pipeline (*Wall Street Journal*, June 30, 2021). Available at https://www.wsj.com/articles/supreme-court-rules-new-jersey-cant-block-natural-gas-pipeline-11624977295?mod=trending_now_news_pos4.

[45] Joseph R. Biden, *Tackling the Climate Crisis at Home and Abroad* Executive Order 14008 at Section 208, Federal Register 86(19): 7619-7633 February 1, 2021

[46] Joseph R. Biden, *Remarks by President Biden at the Virtual Leaders Summit on Climate Opening Session* (The White House, April 22, 2021). Available at https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/04/22/remarks-by-president-biden-at-the-virtual-leaders-summit-on-climate-opening-session/.

just tinkering around the edges"[47] of the climate crisis, then it is imperative that we seize opportunities during this "narrow moment"[48] to find and produce clean, affordable energy. Accordingly, there is an immediate need for low-carbon energy sources to replace the lost energy from natural gas and crude oil, and the proposed CMGEP is an ideal candidate to approve now.

Further, this current project is in-line with the Biden Administration's recent announcement of a Memorandum of Understanding ("MOU") between the U.S. Departments of the Interior, Agriculture, Defense, Energy and the Environmental Protection Agency improving "federal agency coordination and streamline reviews for clean energy projects located on public lands managed by the Interior and Agriculture Departments."[49] In short, under the MOU, "federal agencies will prioritize and expedite federal agency reviews by establishing interagency coordination teams with qualified staff to facilitate preparation of environmental reviews, accelerate renewable energy decision-making and coordinate all environmental and other agency reviews."[50] The current CMGEP provides a prime opportunity to find and produce clean, renewable energy as part of our Nation's initiative to tackle climate change, and is a prime candidate for such an accelerated NEPA review as called for in the above referenced MOU. As such, the State encourages the BLM to move forward with this geothermal exploration project, and to make the accelerated review and approval of similar projects a top priority.

In light of the potential availability shortfalls of some forms of renewable energy, Utah remains committed to its "all-of-the-above" energy approach and has adopted specific policies in furtherance thereof. The specific State and County policies found in the Utah State Resource Management Plan ("SRMP")[51] and Beaver County Resource Management Plan ("CRMP") are discussed at length below.

C. State and County Geothermal Policy

The State of Utah Resource Management Plan ("SRMP") supports geothermal development within the State and has adopted policies and guidelines promoting it on public lands. Specifically, the SRMP states:

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[47] Comment made by President Biden during a speech in Wisconsin on June 29, 2021. Politics, "Biden on EVs, Rail, and Energy: 'We Are Not Just Tinkering'" (*Energy Wire* June 30, 2021). Available at https://www.eenews.net/energywire/2021/06/30/stories/1063736161?utm_campaign=edition&utm_medium=email&utm_source=eenews%3Aenergywire.

[48] Joseph R. Biden, *Tackling the Climate Crisis at Home and Abroad* Executive Order 14008, Federal Register 86(19): 7619-7633 February 1, 2021

[49] DOI, *Biden-Harris Administration to Accelerate Reviews of Clean Energy Proposals on Public Lands*, U.S. Department of the Interior, *available at:* https://www.doi.gov/pressreleases/biden-harris-administration-accelerate-reviews-clean-energy-proposals-public-lands (2022).

[50] *Id.*

[51] Utah State Resource Management Plan, available at: https://rmp.utah.gov/state-of-utah-resource-management-plan/ (2018).

> *"Geothermal energy is a renewable source of electricity that offers important baseload qualities. To expand options for the development of this resource, Federal and state policies are needed that address a range of near, mid- and longer term challenges faced by the industry. These include:*
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> - *Incentive programs,*
> - *Lease opportunities on government-controlled lands, and*
> - *Expansion of access to transmission infrastructure."*[52]

While the first and third bullet points above are beyond the scope of the current EA, the second bullet point – leasing opportunities on government-controlled lands – is exactly the type of solution being promoted by the current CMGEP. As such, the State commends the current project.

In addition to the State's support for promoting geothermal exploration and development, the County Resource Management Plan ("CRMP") for Beaver County also supports the current CMGEP and is relevant here for several reasons. First, the entirety of the lease parcels of this CMGEP fall within the boundaries of Beaver County.[53] Second, the county already has three operational geothermal plants - the Blundell Geothermal Power Plant north of Milford, the Sulphurdale Plant south of Cove Fort and the Thermo Hot Springs Geothermal west of Minersville, with Installed Capacities of 44.8MW,[54] 25MW[55] and 14MW[56] respectively. Third, Beaver County is also home to the new Frontier Observatory for Research in Geothermal Energy (FORGE)[57] near Milford - an Enhanced Geothermal Systems ("EGS") research facility sponsored by a coalition of groups including the U.S. Department of Energy and the University of Utah.[58] The FORGE project is designed to develop tools that will lead to EGS breakthroughs allowing for further development of cost-effective and reliable geothermal energy. The "groundbreaking" nature of this project led Joseph Moore, a geologist and lead researcher at FORGE, to affirmatively state that "the world is looking at Milford."[59]

Needless to say, due to the prevalence of geothermal energy development and potential, geothermal energy in general is a very important piece of Beaver County's overall energy and

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[52] State of Utah Resource Management Plan at 75.
[53] EA at 1-2.
[54] Beaver CRMP at 22.
[55] Megan Geuss, *In Utah, an old geothermal plant gets a new life with hydroelectric additions,* Ars Technica, *available at:* https://arstechnica.com/science/2016/12/in-utah-an-old-geothermal-plant-gets-a-new-life-with-hydroelectric-additions/ (2016).
[56] Beaver CRMP at 22.
[57] Douglas Hollett, *What is FORGE?,* U.S. Department of Energy Office of Efficiency & Renewable Energy, *available at:* https://www.energy.gov/eere/geothermal/what-forge (2021).
[58] Utah FORGE, *Partners,* U.S. Department of Energy, *available at:* https://utahforge.com/about/partners/ (2021).
[59] Jon Reed, *Project In Rural Utah Aims To Tap Into The 'Inexhaustible' Geothermal Energy Below Our Feet,* KUER, *available at:* https://www.kuer.org/news/2021-07-06/project-in-rural-utah-aims-to-tap-into-the-inexhaustible-geothermal-energy-below-our-feet (2021).

land use planning. Consequently, Beaver County has adopted findings supporting geothermal development, stating "geothermal power is cost-effective, reliable, and sustainable and is environmentally friendly" and "the potential for additional production here is high and would be highly beneficial to Beaver County."[60]

Beaver County has a vast amount of untapped geothermal energy potential and resources,[61] and it is imperative that this resource be allowed to be further explored and developed. In so doing, where the Beaver CRMP and Utah SRMP promote responsible geothermal development, the State requests that the BLM continue to coordinate with both plans and ensure that current and future actions taken in furtherance of the Geothermal Exploration Project remain consistent with said plans to the maximum extent possible.

With this policy information in mind, the State now turns to some specific comments regarding the current CMGEP.

IV. THE CAPE MODERN GEOTHERMAL EXPLORATION PROJECT

A. Fluid Mineral Leasing

The State would encourage the BLM to include in the EA an analysis regarding the leasing of "fluid minerals" as it relates to geothermal. According to the BLM's own definition of fluid minerals:

> *"...fluid minerals consist of gas and oil,[62] and geothermal.[63] Geothermal resources are considered a fluid mineral resource by the BLM...just like oil and gas, therefore, when restrictions on leasable fluid minerals exist in the land use plan, those same restrictions and classifications also apply to geothermal exploration and development."*[64]

Because the BLM classifies geothermal resources as fluid minerals (same as oil and gas), it is important that fluid mineral leasing be given the same development opportunities as other renewable energy sources. Beaver County has a vast amount of untapped geothermal energy potential and resources,[65] and it is imperative that this resource be allowed to be further explored and developed.

As shown by recent actions taken by the federal government limiting fluid mineral leasing on public lands,[66] it is entirely foreseeable that a future moratorium or "pause" on oil and gas development could also inadvertently restrict all fluid mineral development, including

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[60] Beaver CRMP at 21-22; *Id.* at 191 (Map 9 showing sources of geothermal energy in Beaver County).
[61] *See generally* Utah FORGE, U.S. Department of Energy, *available at:* https://utahforge.com/ (2021).
[62] 43 CFR 3000.0-5
[63] 43 CFR 3200.1.
[64] BLM, *October 2021 Utah Geothermal Competitive Lease Sale DOI-BLM-UT-0000-2021-0005-DNA, Determination of NEPA Adequacy,* Bureau of Land Management, *available at:* https://eplanning.blm.gov/public_projects/2013757/200485161/20040858/250047053/2021-06-10-Oct2021_Geo_30daypubliccommentperiod_DNA.pdf (2021).
[65] *See generally* Utah FORGE, U.S. Department of Energy, *available at:* https://utahforge.com/ (2021).
[66] E.O. 14008 of Jan 27, 2021.

geothermal. As such, future geothermal related projects and corresponding documentation should be developed/drafted in a way that acknowledges and accentuates geothermal as being included in the definition of all fluid minerals. Doing so will potentially do much to prevent this type of misunderstanding.

B. PEIS-ROD

As cited in Section 1.1.1 of the EA, in 2008 the BLM and USFS completed a joint programmatic environmental impact statement ("PEIS") to analyze and expedite the leasing of public lands with high potential for geothermal development, releasing a Record of Decision ("ROD") that same year.[67] The PEIS-ROD contained various lease stipulations and Best Management Practices ("BMPs"), several regarding water consumption mitigation measures.[68] Of the other BMPs found in the PEIS-ROD, a couple are worth highlighting here.

a) Livestock Grazing

The CMGEP parcels are located within the boundaries of active grazing allotments, and the PEIS-ROD prudently requires geothermal operators to "coordinate with livestock operators to minimize impacts to livestock operations."[69] Livestock grazing is a keystone of the agricultural sector of Utah's economy, and one of the multiple-uses of public lands recognized by federal law. During the Exploration, Drilling and foreseeable Utilization phases of any geothermal projects that are the reasonably foreseeable result of this project, it is envisioned that there will be a necessary development of infrastructure needed for commercial operations, such as access roads, buildings, electrical generation facilities, well fields, pipelines, meters, substations, and transmission lines." With an increase in activity and infrastructure, it is imperative that the livestock producer(s) currently operating these grazing allotments be coordinated with to minimize impacts to the operations, as required by the PEIS-ROD.

With urbanization continually swallowing available agricultural land within the state, livestock grazing on federally administered lands becomes even more important to agriculture in the State. Of the 45 million acres of grazing lands within the State of Utah, 73 percent is federally owned, 9 percent is state owned, and 18 percent is privately owned. Of the federal land that permits grazing, 67 percent is managed by the BLM."[70] In short, the BLM plays an oversized role in ensuring the continued success of livestock grazing in Utah. However, the State is concerned given the fact that in Utah, "grazing has declined on BLM lands by more than 66 percent"[71] over the course of the past century. While the State supports responsible

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[67] The Record of Decision and Resource Management Plan Amendments for Geothermal Leasing in the Western United States at I-17, *available at:* https://eplanning.blm.gov/public_projects/nepa/111421/152162/186379/ROD_Geothermal_12-17-08.pdf (December 2008).
[68] PEIS-ROD at Section 2.3, pages 2-4 through 2-9, and Appendix B.
[69] *Id.* at B-13
[70] *Id.* at 22.
[71] *Id.*

energy development, it is reasonably foreseeable that livestock numbers could be temporarily reduced as a part of future geothermal developments within the lease areas, and past experience shows that temporary reductions in AUMs often have a way of becoming permanent reductions.

As such, the State has adopted a "no-net-loss" policy regarding livestock AUMs on federal grazing allotments.[72] Here, "No Net Loss" means, "AUMs within the state remain at or above current levels unless a scientific need for temporary reduction is demonstrated to the satisfaction of state officials…in the case that AUMs are temporarily reduced, these reductions are reinstated at the earliest possible moment once vegetative health has been restored to its previous levels.[73] According to this "no-net-loss" policy, the State requests that if livestock AUMs are reduced as a result of this Geothermal Exploration Project that those numbers be brought back up to prior levels at the earliest possible time, and other mitigation measures explored.

b) Road Coordination

Related to grazing in general, it is reasonably foreseeable that new roads will be constructed, and existing roads will see an increase in large truck traffic in the subject grazing allotments as a result of CMGEP. Due to the nature of the grazing allotments in the lease area, livestock tend to utilize roadways as a mode to navigate rangelands. As a result, the State anticipates that development of geothermal resources will result in an increase in conflicts between motor vehicles and livestock. The State appreciates the ROD's requirement that operators "consult with local planning authorities regarding increased traffic".[74] The State sees an additional opportunity for the BLM to require operators to specifically mitigate livestock-vehicle collisions prior to any development as part of their overall attempts to coordinate with the livestock producer/operator.

The State commends the inclusion within the PEIS-ROD of the requirement that the BLM and operators must engage in "additional participation and coordination" with counties during implementation-level planning.[75] Road maintenance agreements are critical to a properly functioning state-wide travel network.[76] The State requests that any authorization to construct or improve roads for geothermal development also outline construction and maintenance responsibilities. Road maintenance agreements will ensure proper functioning roads while establishing defined roles, and quantitated road maintenance costs for counties and operators.

This coordination requirement found in the PEIS-ROD is similar to the coordination and "consistency" requirement found in FLPMA and discussed at length above. Without re-analyzing the issue, the State reiterates its request that under the Coordination and Consistency

[72] Utah SRMP at 149.
[73] *Id.*
[74] PEIS-ROD at B-7.
[75] The Record of Decision and Resource Management Plan Amendments for Geothermal Leasing in the Western United States at I-17(December 2008).
[76] State of Utah Resource Management Plan, at 184(Citing Utah State Code 63J-4-401)

requirements of FLPMA, that any and all actions taken by the BLM (including implementation-level planning) be consistent with the Utah SRMP and the Beaver CRMP to the greatest degree.

C. Wildlife Concerns

As noted in the beginning of this comment letter, on October 11, 2022 the Utah Division of Wildlife Resources ("UDWR") in conjunction with PLPCO submitted comments outlining various wildlife related concerns surrounding the current geothermal project. As stated prior, these comments are hereby incorporated by reference as if stated in full, and therefore, the State would encourage the BLM to take those comments into full consideration as this project moves forward.

D. Historic and Archaeological Concerns

The State understands that the BLM will meet its Section 106[77] process obligations for this geothermal exploration project in a manner similar to oil and gas lease sales. The agency will conduct an analysis on the reasonably foreseeable development of a well pad within an existing lease parcel without adversely affecting historic properties. The analysis will include identifying historic properties using, among other things, survey and site information available through Sego 2.0 and CURES; site probability models for the areas under consideration, if they are available; historical records, such as General Land Office plats, vintage topographic maps, and vintage aerial photographs; and information collected from consulting parties. Past analyses have concluded that adverse effects to historic properties can be averted through avoidance in the majority of cases.

V. CONCLUSION

In summation, the citizens of Beaver County and the State of Utah as a whole, will continue to benefit as the BLM fulfills its mission to promote the sustained yield and multiple use of Utah's public lands. As an overarching goal, "the State of Utah supports the wise use, conservation, and protection of public lands and their resources, including well-planned management prescriptions."[78] Thus, "it is the State's position that public lands be managed for multiple-uses, sustained yields, prevention of waste of natural resources, and to protect the health, safety and welfare of the public. It is important to the State economy that public lands be properly managed for fish, wildlife, livestock production, timber harvest, recreation, energy production, mineral extraction, water resources, and the preservation of natural, scenic, scientific, and historical values."[79] Further, where the State has adopted an "any-of-the-above"[80] energy policy which promotes geothermal development on public lands and encourages expanded "lease opportunities on government-controlled lands"[81], the State supports the Cape

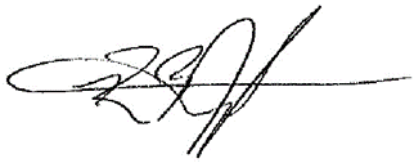
[77] Section 106 of the National Historic Preservation Act and implementing regulations found at 36 CFR 800.
[78] Utah SRMP at 8.
[79] *Id.*
[80] OED, *supra* Note 29.
[81] Utah SRMP at 74, *supra* Note 27.

Modern Geothermal Exploration Project.

The cornerstone of proper management of this state's resources is the coordination and cooperation between the State and Federal land management agencies. Accordingly, I thank you for your consideration of the State's comments.

Please contact me if you have further questions.

Sincerely,



Redge B. Johnson
Executive Director