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July 25, 2017

Michael Nedd, Director

Bureau of Land Management

Washington, DC

Dear Director Nedd,

On behalf of the members of the Geothermal Energy Association, I am writing in response to your request for input on how BLM can "make its land use planning procedures and environmental reviews **timelier and less costly.**" Attached are recommendations we have submitted separately, but we are sending this letter to provide context.

When it comes to costly and inefficient federal processes, geothermal leasing and permitting should be a leading candidate for your attention. We have some ideas for making improvements and would welcome engaging in a collaborative effort to define other opportunities to achieve your goal.

A new geothermal power plant can take anywhere from 5-7+ years, or even longer, to develop. Roughly half of this time is spent on planning and NEPA related requirements that apply at six different points in a projects development timeline. As a result, geothermal projects have unduly long project lead times, which is a significant obstacle not only to the success of individual projects, but also to the growth of the geothermal industry as a whole.

NEPA/permitting delays add substantially to the cost and perceived risk of geothermal development. One analysis concluded that as much as one-half of the cost of a geothermal project can be due to high risk and cost of financing compounded by long-lead times. (Hance, GEA.) By prolonging the amount of time it takes for the developer to see a return on their project investment, finance costs increase making otherwise viable projects face uncertainty. Long lead time also make it difficult for the geothermal industry to take advantage of policy incentives that place deadlines on development by a date certain, such as tax credits, or state procurement offerings that also value quick turn-around times.

If geothermal energy is to be viewed as a viable component of state and national efforts to increase domestic energy security through the utilization of renewable resources, developers must be able to

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bring geothermal projects online relatively quickly. Quite simply, if geothermal energy is to compete with both conventional and other forms of renewable energy production, geothermal development lead times must be reduced. What now takes 5-7+ years should take half that time or less!

While factors contributing to long geothermal project lead-time can vary from project to project, there is broad agreement that the long permitting times for geothermal development activities on federal land is an area where significant change is needed. A reduction in the amount and severity of delays associated with permitting geothermal projects would mitigate the level of risk associated with overall development, reduce overall project costs, and significantly improve the outlook for geothermal development in the US.

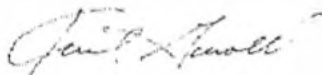
NREL researchers examining this problem reported: "Reducing the overall project time directly attributable to NEPA, whether by reducing the time of individual NEPA processes or reducing the frequency of NEPA analysis for a particular project, can alleviate some of the major barriers to geothermal development. Reducing NEPA timelines directly decreases overall project timelines which indirectly decreases the perceived risk profile— lowering three of the four barriers to geothermal development identified by industry. Lowering these barriers is in line with one of NEPA's stated goals: to "enhance the quality of renewable resources." (From *Geothermal Permitting and NEPA Timelines*, Katherine R. Young, Kermit Witherbee, Aaron Levine, Adam Keller, Jeremy Balu, Mitchell Bennett. National Renewable Energy Laboratory, 2013.)

Below are a few examples of measures that would reduce permitting delays contributing to long geothermal lead time. We hope BLM will seriously review these suggestions. In addition, we urge BLM to consider the willingness of industry to participate in a collaborative effort to determine how best to reduce geothermal lead time by reducing delays in project permitting.

We understand recommendations have been developed recently by researchers at the National Renewable Energy Laboratory and DOE, and BLM should request copies of their work. This work has been conducted as part the soon to be published Geothermal Vision report that DOE has been working on in collaboration with a wide range of parties.

Again, thank you for this opportunity to provide input to BLM. GEA and its member companies stand ready to assist with your efforts.

Sincerely,



Karl Gawell
Executive Director

Some Measures to Reduce Geothermal Development Delays:

Establish CX for Geothermal Exploration Activities: NEPA allows federal agencies to establish CXs for actions that they determine do not have a significant effect on the quality of the human environment. BLM has rulemakings already on the books that allow CXs for some geothermal exploration activities, but they are limited and vague, and field offices have not been using the authority. New rules would ensure CXs are extended to geo exploration activities that result in little disturbance.

Prepare Supplemental Programmatic Geothermal EIS: BLM should prepare and issue an updated Supplemental Programmatic Geothermal EIS (SPGEIS) for commercial geothermal leasing and development as well as related transmission. To the extent possible, refer to the new SPGEIS as adequate environmental review in order to avoid additional duplicative NEPA exercises. This SPGEIS should be used to establish "Geothermal Energy Zones," regions where geothermal resources are strong, utility-scale development is encouraged and the SPGEIS would be deemed adequate environmental review for at least initial exploration activities.

Set and track geothermal permitting timelines: DOI should direct its field offices that for [projects requiring an Environmental Assessment \(EA\)](#), BLM should either issue a FONSI or declare the need for a full EIS within 6 months of receipt. Presently BLM has no obligation to process NEPA documents according to any particular timeline, and the result for geothermal is unnecessary delays. In 2013, an NREL study found that the average Environmental Assessment for geothermal takes 10 months to process. This proposal would reduce the timelines to 6 months, still a generous and workable window. If reasonable maximum processing times are implemented, BLM will have firm deadlines to work toward and projects will not face untold permitting delays.

Establish CX for most Geothermal Casual Use (CU) activities: BLM should declare that CU permits are not needed for most noninvasive geothermal exploration activities. Casual Use is an action on Federal Lands that causes no disturbance. Geothermal developers need a Casual Use permit for many types of early exploration activities, such as aerial surveys with small drones, sampling existing water wells, etc. All federal lands are open to Casual Use by the public with no prior notification, permitting, or approval from DOI. While CU permits are not especially difficult to get, they take 1 month on average. If developers can limit their CU burden, that would represent a real savings in time and money.

Develop standardized geothermal permit conditions: Review lease exploration, drilling and development scenarios in PGEIS and establish standard sets of conditions that can be applied to reduce subsequent NEPA processing requirements.

Develop a core geothermal review team to help supplement state staff as needed:

Geothermal development is often most problematic in states having little experience with development. Developing a team in one state office that could supplement such states when needed could help address permitting bottlenecks.