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Santa Fe National Forest
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Santa Fe, NM 87508

June 26, 2015

Scoping comments for the proposal to allow geothermal leasing in the Santa Fe National Forest
Submitted via US Certified Mail and Electronic Mail

Dear Mr. Gore,

Thank you for accepting our comments on the proposal to allow geothermal leasing in the Santa Fe National Forest (SFNF).

New Mexico Wilderness Alliance is a statewide non-profit organization dedicated to the protection, restoration, and continued enjoyment of New Mexico's wild lands and wilderness areas. As such, we advocate for increased protections for, and the prevention of damage to public lands, and we participate in all levels of agency planning. We have thousands of members in New Mexico and across the country, many of whom regularly visit SFNF, and particularly the area covered by this project proposal.

The Center for Biological Diversity is a national, nonprofit conservation organization with more than 900,000 members and online activists dedicated to the protection of endangered species and wild places. The members and activists of the Center are concerned with the management of our federal public lands, including SFNF, especially as that management relates to the recovery and viability of native species and habitat.

WildEarth Guardians is a non-profit corporation, incorporated in New Mexico, with 77,000 members and supporters nationwide. WildEarth Guardians protects and restores the wildlife, wild places, wild rivers, and health of the American West. It has four programs focusing on wildlife, wild places, wild rivers, and climate and energy. Many members and staff of WildEarth Guardians live and/or recreate in New Mexico and frequently use and enjoy, and intend to continue using and enjoying, the SFNF for recreational, aesthetic, and scientific activities.

Pathways: Wildlife Corridors of New Mexico is for people who love wildlife and want to do something to help the wild animals where they live. It gathers scientifically valid wildlife track and sign data through monitoring transects with trained volunteers, and by monitoring camera traps, and engages the community of Placitas and surrounding areas.

Amigos Bravos was formed in 1988, and is a statewide water conservation organization guided by social justice principles and dedicated to preserving and restoring the ecological and cultural integrity of New Mexico's water and the communities that depend on it. While rooted in science and the law, its work is inspired by the values and traditional knowledge of New Mexico's diverse Hispanic and Native American land-based populations, with whom it collaborates.

The New Mexico Backcountry Hunters & Anglers is a state chapter of Backcountry Hunters and Anglers – a national non-profit organization. Its members and supporters in New Mexico and across the nation have a deep connection and longing to return to the natural world to experience the wonders that the backcountry and wilderness provide. It cherishes hunting and angling and realizes outdoor traditions are inextricably linked to a healthy environment. It works to maintain the backcountry values of solitude, silence, clean and free flowing rivers and habitat for fish, fowl and large, wide-ranging wildlife. It strives to deploy a variety of legal and administrative tools to maintain these values for present and future generations.

Back Country Horsemen of New Mexico (BCHNM) is a state chapter of Back Country Horsemen of America (BCHA). BCHA chapters are active in 27 states consisting of roughly 13,000 members who are dedicated to keeping trails open to recreational users of our public lands. There are seven chapters under Back Country Horsemen of New Mexico (BCHNM) and it works closely with federal and state agencies on resource management of federal and state lands with an emphasis on keeping public lands and trails open for equestrian use.

New Mexico Sportsmen is a small New Mexico sportsmen organization dedicated to preserving or enhancing fish & wildlife habitat on a landscape scale. Its primary focus is on federal public land. It coordinates its efforts with National and state conservation organizations to maximize its capacity.

Great Old Broads for Wilderness, along with its local chapter, Northern San Juans Broadband, is a national organization, with three local chapters in New Mexico, which engages and ignites the activism of elders to preserve and protect wilderness and wild lands. With more than 5,200 members and advocates, Broads gives voice to the millions of older Americans who want to protect their public lands as Wilderness for this and future generations.

The Rio Grande Chapter of the Sierra Club is a volunteer-led organization with more than 7,000 members in New Mexico and West Texas. Its priorities are climate and energy, wild lands, wildlife and preserving our precious water resources.

We believe that when all the maps, resources, and values are considered, this area is likely not appropriate for geothermal leasing. Even if some small portions are appropriate, we believe that the Inventoried Roadless Areas must be removed from the proposal entirely, that the stipulations outlined in the proposal are not sufficient, that endangered species would likely be jeopardized, and that both surface and subsurface waters would likely be damaged by any production.

Before we begin our comments on the specific proposal, we would like to remind SFNF of both the Forest Service's (USFS) mission, its decision-making discretion, and its public trust responsibilities as a federal land management agency. Additionally, we believe it is important for SFNF to take note of the Bureau of Land Management's (BLM) mission and guidance at this time, as it would not serve the public interest for SFNF to allow something now that BLM must prohibit later.

The USFS mission is "Caring for the Land and Serving People". USFS guidance states that this means the agency must, among other things, advocate a conservation ethic in promoting the health, productivity, diversity, and beauty of forests and associated lands, listen to people and respond to their diverse needs in making decisions, and protect and manage the national forests and grasslands so that they best demonstrate the sustainable multiple-use management concept¹.

USFS and BLM both have a "multiple use, sustained yield" mission, meaning that while the agencies allow resource development on lands under their jurisdictions, they are also charged with ensuring that these uses are sustainable, and do not prevent public land from being used and enjoyed by future generations. 16 U.S.C. §531 (a) states that "multiple use" means, "[t]he management of all the various...resources of the national forests so that they are utilized in the combination *that will best meet the needs of the American people...that some land will be used for less than all of the resources...without impairment of the productivity of the land*, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output" (emphasis added).

Similarly, the Federal Land Policy and Management Act (FLPMA), which guides BLM, also supports consideration and protection of wildlands and wildlife habitat alongside consideration of energy development and other uses. Section 102 states, "that it is the policy of the United States that. . .the public lands be managed in a manner. . .that, where appropriate, will preserve and protect certain

¹ See <http://www.fs.fed.us/fsjobs/forestservice/mission.html>

public lands in their natural condition. . .” 43 U.S.C. §1701(a)(8). Notably, BLM’s multiple use guidance is even more restrictive than USFS’s.²

The agencies hold federal land in trust for future generations of the American public. While the agencies each have a multiple use mission, neither agency is charged with allowing every use on every acre. Quite the opposite; it is expected that the agencies will reserve some areas for conservation and recreation, and will close certain areas to development. This is in conformance with the multiple use mandate. Additionally, agencies are given enormous discretion in their decision making authority. Unless Congress directly tells the agency what to do in a specific scenario, or the agency acts with no rational basis for its decisions, the agency has full discretion to make decisions within its mission. We encourage SFNF to remember that it is not bound to allow geothermal leasing here by any law, rule, or guidance whatsoever.

We also emphasize that our organizations support responsible renewable energy development on public lands, along with energy conservation and efficiency, and distributed generation such as rooftop solar. However, some important wildlands and wildlife habitat are inappropriate for development of any kind. Where development does occur, it should always be done in a manner that avoids, minimizes, and mitigates impacts through compensatory off-site mitigation, as well as on-site restoration.

I. NEPA Requirements

Public Participation and Consultation with other Agencies

The National Environmental Policy Act (NEPA) and its accompanying guidance both from the Council on Environmental Quality (CEQ) and the USFS NEPA Manual, make it clear that public agencies should include those parties who are actually interested in the development of a decision document. Forest Service Manual 1909.15.10 § 11.52 (4) states that USFS shall, “[e]nsure that the level of effort to inform and to involve the public is consistent with the scale and importance of the proposed action and the degree of public interest.” The Jemez Ranger District is certainly one of the most visited USFS ranger districts in New Mexico, used extensively by hikers, backpackers, hunters, and anglers. The level of public interest is undoubtedly extremely high.

The agency has ample discretion to increase the comment period to 60 or even 90 days, which would be in conformance with USFS’s NEPA goals and would alleviate some of the frustration expressed at the public meetings. While the Federal Register notice was published on May 13, the earliest newspaper publications which actually noted how to submit comments and the public meeting schedule were not published until May 26th. We sincerely appreciate SFNF extending the comment period to June 26th although we believe it should be extended even further. We hope SFNF will also consider holding at least one additional meeting, preferably in the Albuquerque area, as it likely has the largest number of people who recreate in the Jemez area.

Additionally, we remain confused and concerned about SFNF’s level of consultation with the BLM, which will be responsible for all actual lease sales and drilling permits, the Fish and Wildlife Service (FWS), which will need to be consulted on endangered species, as well as the Park Service (NPS) which now manages the adjacent Valles Caldera National Preserve. USFS Manual 1909 notes that the, “[r]esponsible official *shall* identify and contact other federal, state, or local agencies with an interest in the action” (see §11.3, emphasis added). It also states that the Lead Agency shall request the participation of each cooperating agency in the NEPA process at the earliest possible time.

² See 43 U.S.C. § 1712(c)(1); see also Section 302, 43 U.S.C. § 1732(a).

At the public meeting in Santa Fe, SFNF noted that it has been in the initial planning stages for this project for approximately seven months. But the Valles Caldera representative at the meeting said that the Preserve had only become aware of the project at the time of the Federal Register publication on May 13th. It is difficult to imagine how Valles Caldera would not be considered an interested agency by SFNF when the proposal is immediately adjacent to three sides of the Preserve, and when that Preserve's mission is specifically to "protect, preserve, and restore the fish, wildlife, watershed, natural, scientific, scenic, geologic, historic, cultural, archaeological, and recreational values of the area."³

Similarly, while SFNF stated that the Expression of Interest (EOI) went to the BLM and subsequently went to USFS, the BLM State Office did not seem to be aware of the project until after the Federal Register notice either. Our calls to the office resulted in unclear conversations, and to this day, BLM is not able to produce the EOI, nor tell us the date it came into the office. We have submitted a FOIA request to the state office to try to obtain this information.

Lastly, none of the documents on the SFNF website about the project mention any discussions thus far with FWS, and there were no FWS representatives at the public meetings. As discussed in more detail later, this project overlaps Critical Habitat for the Mexican Spotted Owl (MSO), and is home to the recently listed Jemez Mountain Salamander and the New Mexico Meadow Jumping Mouse. The scoping documents mention the MSO, but not the salamander or the mouse. SFNF is prohibited by the Endangered Species Act from jeopardizing the species, and should have notified FWS at the earliest possible point to get a list of endangered species in the proposal area. SFNF must then prepare a Biological Assessment for each listed species to determine whether or not the proposed action may jeopardize any of the species⁴. If the Assessment determines jeopardy may occur, SFNF must initiate formal consultation with FWS⁵.

We would appreciate clarification of the process SFNF went through to get to this point, and again, encourage the agency to extend the comment period further and to host additional public meetings to be more within the spirit of the NEPA regulations of widely including the public.

Best Available Science

Both USFS and BLM are directed by NEPA, agency guidance, and Executive Orders to make their decisions based on the best scientific information available. NEPA regulations require that in an environmental analysis, "[t]he information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 C.F.R. § 1500.1(b). Executive Order 13563 (2011), affirming Executive Order 12866 (1993) states that, "[o]ur regulatory system...must be based on the best available science". The 2012 Forest Planning Rule states that the best available scientific information must be used to inform the planning process and documentation of how science was used in the plan must be included (see FSH 1909.12). The Federal Land Policy and Management Act (FLPMA) requires that "the [BLM] public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." 43 U.S.C. § 1701(a)(8).

Prohibition on Predecision

³ *Transitioning the Valles Caldera National Preserve to the National Park Service*, May 11, 2015. Available at http://www.vallescaldera.gov/NPS/docs/VALL-FactSheetAndFAQs05-11-15v2.pdf?utm_source=valescaldera&utm_medium=homepage&utm_campaign=NPS%2Fdocs%2FVALL-FactSheetAndFAQs05-11-15v2.pdf

⁴ 50 C.F.R. § 402.12

⁵ *Id.*

NEPA prohibits an agency from being “predecisional”. In other words, NEPA requires that federal agencies take a “hard look” at the issues presented, the public’s interest, the best available science, and the potential environmental impacts of various alternatives, and to actually weigh that evidence when making a decision⁶. An agency is not permitted to have made decisions internally before the NEPA process is complete.

We were somewhat alarmed to learn that the proposal has apparently already been broken up into seven lease parcels. The current SFNF plan is almost thirty years old and does not contain provisions for geothermal leasing, which means the plan would have to be amended in order for leasing to even be considered in these areas. SFNF confirmed this at the public meetings. If the purpose of this EIS is simply to determine whether or not leasing will even be permitted, SFNF should not be at the stage of knowing how many lease parcels there will be and how large they are.

Additionally, SFNF must not simply adopt the project proponent’s desires as its preferred alternative without thorough consideration of impacts through NEPA analysis and consideration of how those impacts would affect BLM’s obligations under FLPMA, which requires that: “[i]n managing the public lands the [Secretary of Interior] shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.” 43 U.S.C. §1732(b) (emphasis added), along with SFNF’s obligations under the National Forest Management Act (NFMA). The project proponent has a completely different objective than SFNF. SFNF must evaluate all available information during this process, and create a preferred alternative that conforms to the USFS’s responsibility of sustainably holding land in trust for the use and enjoyment of future generations of the American public.

II. Clarification of BLM’s role in decision making process

We recommend that at some point during this process SFNF clarify BLM’s role in the development of this particular proposal, both with the public and between the two agencies. SFNF should provide this clarification to the public prior to publication of the Draft EIS and also include it in the Draft EIS. We understand that this EIS will merely analyze whether or not SFNF surface estate may be leased for geothermal development in the future, and that all actual leasing and permitting will go through BLM. We also understand the BLM will undertake its own environmental analysis at both of those phases of development.

However, there seems to be some confusion, both within the agencies and the public, about what specific decision making roles BLM will have. Specifically, we would appreciate more definitive information regarding the BLM’s future ability to place additional stipulations and Conditions of Approval (COA) on the surface use of SFNF land, as well as its ability to deny leases altogether. For example, if SFNF places a No Surface Occupancy (NSO) stipulation on a parcel, and it is nominated for leasing, will BLM be able to expand that stipulation to an NSO without exceptions if it determines at the leasing phase that SFNF’s stipulations were not sufficient to protect the surface, even when the surface is not BLM’s jurisdiction?

Additionally, we are interested in hearing more about potential COA’s BLM may eventually be able to place on the parcels, including whether COA’s are possible (and enforceable) which would actually halt production in the event certain conditions are met. When discussed at the meeting, BLM representatives stated that this was possible, but later indicated that such a COA would never actually

⁶ See *Natural Resources Defense Council v. Morton*, 458 F.2d 827, 838 (D.C. Cir., 1972), see also Question 1a, Forty Most Asked Questions Concerning the CEQ’s National Environmental Policy Act, available at <http://energy.gov/nepa/downloads/forty-most-asked-questions-concerning-ceqs-national-environmental-policy-act> (NEPA “includes all reasonable alternatives, which must be rigorously explored and objectively evaluated”).

placed on a lease because if the potential for disaster was so high that production might have to be halted, BLM would not lease the parcel. Contrary to this optimistic view of BLM leasing practices, it has not been our experience that BLM often denies lease sales even in the face of potentially serious environmental damage, nor is BLM's view always in agreement with those of scientists or the public.

Rather than being answered later at the leasing stage of development, SFNF must answer these questions now, during the initial analysis. The answers are crucial both to SFNF and the public, in order to know how critical the placement of the most appropriate stipulations are at this time. If the only real moment for the right choice of stipulations and surface use decisions is actually during this phase, it is vital that SFNF understand this and act accordingly.

III. Timing and scope of this proposal

The current forest plan for SFNF was finalized in 1987. SFNF initiated the Assessment process for its multi-year forest plan revision process in March 2014, which will utilize the new Forest Planning Rule. We do not understand why analyzing availability for geothermal leasing was not simply incorporated into the forest plan revision.

A forest plan normally plans for foreseeable use and development of resources, and simply looking at where leasing may or may not occur is exactly the sort of topic that should be in a forest plan revision. BLM similarly analyzes which lands are open and closed to mineral leasing in their Resource Management Plans. Were SFNF not currently revising its entire plan, an amendment like this in response to an EOI would have made more sense.

Ormat Technologies, Inc. nominated approximately 46,000 acres for possible development, which, as noted above, is not permitted under the current forest management plan and would require an amendment. SFNF expanded the analysis area more than four times to 194,000 acres, which it based on USGS's map of highest potential for geothermal in the area. Despite saying at the public meetings that it was required to consider the proposal, land uses are discretionary decisions by the management agency, especially when a particular use is not even permitted in an existing land use plan, and SFNF could have rejected the proposal outright. It was certainly not obligated to expand the analysis area.

We are curious whether SFNF will be considering geothermal leasing elsewhere in the Forest as part of the revision, and if it is, the impetus for considering this particular proposal separately becomes even less clear. When asked at the public meetings why this project was being evaluated separately, SFNF answered that it wished to be efficient and expedient. But if efficiency was the goal, surely creating one EIS would have been more efficient (and less expensive) than creating two, and if geothermal leasing was considered as a layer in the forest plan revision process, SFNF could evaluate which areas were appropriate for geothermal leasing in the whole forest, rather than in one portion, certainly increasing efficiency by evaluating all potential future interest in the forest at once. We are concerned then, that there is some sort of fast-track for this project, which ties into our worry about SFNF potentially being predecisional.

Similarly, if SFNF's reason for expanding analysis area so far beyond the company's proposal was in anticipation of future interest, it would be another reason that geothermal consideration should have just been incorporated into the plan revision as a layer on the whole forest. An alternative should be analyzed that solely looks at development within the actual EOI.

Lastly, we are concerned that making a geothermal leasing decision separately from the forest plan revision could result in SFNF's revision objectives being overshadowed. For example, as part of the revision, the SFNF will conduct a mandatory inventory and evaluation of lands that may be suitable for inclusion in the National Wilderness Preservation System and will determine whether to recommend any of those lands for wilderness designation. 36 C.F.R. § 219.7(c)(2)(v); Forest Service Handbook

1909.12, ch. 70 (final directives on the process for identifying and evaluating those lands and determining whether to recommend them for wilderness designation). Through this process, the agency may identify significant roadless acreage in addition to existing IRAs⁷. Amending the Forest Plan to permit geothermal leasing in areas that may be identified as roadless and eventually recommended for wilderness protection undermines that particular process, as well as the broader forest planning process designed to take a comprehensive look at the SFNF's multiple resources and uses and determine how to balance and manage those uses.

IV. Boundaries

We understand that the boundaries for this analysis area were drawn using USGS's determination of areas with high geothermal potential. However, this is certainly not the only criteria SFNF can or should consider when analyzing proposals. A high potential for development does not necessarily make that area appropriate for development, or even for consideration.

There are 15,518 acres of Inventoried Roadless Area (IRA) within the proposal, comprised of portions of nine separate IRAs (see Appendix A). As you know, IRAs are areas which have been inventoried by USFS and found to possess wilderness characteristics. While not formally designated as protected areas through legislation, they are areas which are potentially suitable for future wilderness designation by Congress. In 2001, the Roadless Rule was finalized, and it has survived several federal court challenges. The USFS website states that, "[t]he 2001 Roadless Rule establishes prohibitions on road construction, road reconstruction, and timber harvesting on 58.5 million acres of inventoried roadless areas on National Forest System lands. The intent of the 2001 Roadless Rule is to provide lasting protection for inventoried roadless areas within the National Forest System in the context of multiple-use management"⁸. We do not see how allowing geothermal production within the IRA's, which will necessarily include road construction unless there are no exceptions in the No Surface Occupancy stipulations, complies with the Roadless Rule.

SFNF has complete discretion to alter the boundaries of the proposal, and should redraw the boundaries of the analysis area to exclude the IRAs entirely, in order to ensure their preservation for potential inclusion in the wilderness system. We are absolutely opposed to any development inside the IRAs. SFNF indicated that some of the areas the geothermal company was especially interested in were inside the IRAs, as a reason for including them. But this fact does not obligate SFNF to even consider them. Even if SFNF decided to include the IRAs as one alternative, it must analyze an alternative without them. This would certainly be included within the scope of NEPA's requirement that agencies consider "all reasonable alternatives"⁹.

We also analyzed whether there were additional roadless areas within the proposal that should be inventoried as part of the Forest Plan revision. To find these areas, we used the MVUM roads for the Santa Fe National Forest and also the main state and county routes that run through the forest. The majority of the proposal area (101,293 acres plus 15,518 acres of IRAs), is roadless (see Appendix B). We believe these areas may have wilderness characteristics, that SFNF will have to inventory them as part of

⁷ New Mexico Wilderness Alliance conducted a GIS analysis and found that 101,293 acres of the proposal area, in addition to existing IRAs, should be inventoried for wilderness characteristics as part of the plan revision. This is discussed later in these comments and a map of these areas is included as Appendix B.

⁸<http://www.fs.usda.gov/roadmain/roadless/2001roadlessrule>

⁹ See Question 1a and 1b, [Forty Most Asked Questions Concerning the CEO's National Environmental Policy Act](http://energy.gov/nepa/downloads/forty-most-asked-questions-concerning-ceqs-national-environmental-policy-act), available at <http://energy.gov/nepa/downloads/forty-most-asked-questions-concerning-ceqs-national-environmental-policy-act>

the revision process, and that uses which could degrade them should not be permitted or even considered before they are inventoried through the forest plan revision.

V. Stipulations

We would strongly prefer that none of this proposal area be commercially developed for energy production at all, as we do not believe any portion is really appropriate when riparian areas and endangered species habitat are fully considered. Not only is the entire area critical habitat for the owl, but nearly every portion of the proposal contains significant water sources¹⁰. However, in the event a portion of the area is considered or approved for leasing, USFS should place the absolute most restrictive stipulations inside all IRAs, around water bodies, hot springs, cultural resources, endangered species habitat, etc.

The most restrictive stipulation available is NOT simply NSO, but NSO without exceptions, modifications, or waivers¹¹. This stipulation, unlike a simple NSO stipulation, would not allow Industry or the State of New Mexico to decide that surface disturbance is warranted. It is our experience that unless the NSO stipulation specifically states “without exceptions, etc”, surface disturbance does occur. SFNF should be aware of this and should ensure to the greatest extent possible that there is no surface disturbance anywhere near places which are potentially suitable for wilderness designation, water bodies, places with high levels of recreation, sacred sites, and critical habitat.

SFNF acknowledged the high value of natural resources in the proposal area in its scoping documents when it chose to place an NSO stipulation on the vast majority of the proposal. We would like to note that SFNF wanted to avoid surface disturbance for a variety of reasons including slope and erosion, springs, endangered species, IRAs, etc. The maps for the individual resources for which SFNF chose an NSO stipulation make it clear that there are multiple reasons on almost every portion of the proposal area to avoid surface disturbance. In other words, it is likely that an area SFNF deemed appropriate for an NSO stipulation for erosion reasons is ALSO an IRA, or contains a spring, or contains an endangered species. This means that any exception granted from an NSO stipulation would likely damage *multiple* resources at once. This underscores our certainty that the only appropriate stipulation for these areas is NSO without exceptions. If an NSO without exception stipulation was appropriately placed on all the areas currently proposed as simply NSO, very little of the proposal area remains open to development, heightening our suspicion that none of it is suitable for leasing at all.

Additionally, there should be a much larger buffer around water bodies and springs than just 500 feet. We suspect this is simply not enough distance to ensure these areas are not impacted. We understand that 500 foot buffers are standard for water bodies in the BLM stipulations, but in this instance, the entire proposal is in an extremely active riparian area. There are both surface and subsurface water bodies everywhere. SFNF should analyze geothermal production’s potential impacts to all water, and should choose a buffer that will actually ensure no impact to riparian areas. SFNF should explain how it reached the number it uses, and the science upon which the number is based.

¹⁰ See proposed action Water Sources Map (page 21) and Water Bodies Map (page 17), available at: http://a123.g.akamai.net/7/123/11558/abc123/forestservice.download.akamai.com/11558/www/nepa/101582_FS_PLT3_2464005.pdf

¹¹ See Appendix A, page A-41 at: http://www.blm.gov/style/medialib/blm/co/programs/land_use_planning/rmp/white_river/documents/proposed_rmpa_-_final.Par.40428.File.dat/08_WRFO_OG_RMPA-FEIS_ApA_LS_2015.pdf and Appendix H, page H-35 at: http://www.blm.gov/style/medialib/blm/ut/natural_resources/SageGrouse/FEIS_Appendices.Par.58727.File.dat/AppendixH_StipulationsAssociatedWithFluidMineralLeasing.pdf

SFNF should require every minimization of impacts possible at every phase. SFNF should specify what minimization would entail, should require best management practices and best available technology at all times, should require full restoration at the end of any leasing period and development, and should require compensatory, off-site mitigation for unavoidable impacts consistent with NFMA and Secretarial Order 3330¹², the subsequent 2014 Energy and Climate Change Task Force Report¹³, and BLM's Draft Regional Mitigation Manual Section 1794 (Draft MS-1794)¹⁴.

VI. Technical issues

SFNF should undertake a thorough analysis of the technical aspects of geothermal production in the EIS, in order to adequately understand the potential impacts which may be caused by allowing it. Specifically, the following topics should be thoroughly analyzed:

1. Fracturing and potential seismic impacts per discussion at public meeting
 - a. This was briefly discussed at the meeting in Santa Fe and deserves more investigation. Valles Caldera representatives seemed particularly interested in this topic, and there was disagreement between the BLM representative and a former geothermal scientist (Dr. Goff) about whether or not geothermal production requires fracturing. Fracturing should be specifically analyzed, both because of its potential impacts to the springs and other water bodies, and also because of the area's proximity to the many nuclear and other explosive devices at Los Alamos National Laboratory.
2. Potential impacts to water bodies if production were to occur
3. The amount of water required for production, who would be responsible for obtaining water, and where the water might come from.
4. The level of disturbance (both surface and subsurface) caused by geothermal production
5. The amount of road construction and transmission lines required to make geothermal viable
6. Analyze the findings from the attempts to develop geothermal in this same area thirty years ago, including why it was determined to be not commercially viable. This should impact whether or not it is appropriate to open this area to potential development at this time.
 - a. We understand it was deemed commercially non-viable because the steam in this area was too dirty, and that there is no recent technology that would allow the steam to be adequately cleaned.

¹² Available at: <http://www.doi.gov/news/upload/secretarial-order-mitigation.pdf>

¹³ Available at: http://www.doi.gov/news/upload/Mitigation-Report-to-the-Secretary_FINAL_04_08_14.pdf

¹⁴ Available at:

http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/im_attachments/2013.Par.57631.File.dat/IM2013-142_att1.pdf

- b. We also understand that when geothermal production was attempted in the Valles Caldera area in the early 80's when it was still private land (see scoping comments submitted by George Diesel) there was a high level of water and air pollution, the steam was so dirty that white particles coated all the surrounding trees, and the abandoned wells are still there today.

VII. Endangered Species

The official policy of the United States, as expressed in the Endangered Species Act (ESA) is that "all Federal departments and agencies shall seek to conserve endangered species and threatened species." 16 U.S.C. § 1531(c)(1). Under the ESA, USFS has an affirmative duty to ensure that any action it authorizes is not likely to jeopardize listed species or result in the destruction or adverse modification of designated critical habitat. Id. § 1536(a)(2). In order to fulfill this responsibility, when USFS knows that listed species are present in the action area, which is true in this case, it must conduct a biological assessment. Id. § 1536(c). We request that the biological assessments for this project be made available on the project website, for ease of public accessibility.

Further, when, as part of the biological assessment, USFS determines that either listed species or critical habitat are likely to adversely affected, formal consultation and/or conference with FWS is necessary. 50 C.F.R. § 402.12. In this case, based on the potential likely impacts to both listed species and designated critical habitat, we believe that a determination that this project may adversely affect both is likely, and therefore SFNF should initiate formal consultation with FWS upon completion of the biological assessment. We request that the DEIS explain the consultation and/or conference process used by USFS for this project, as well as the information contained in any biological assessment and biological opinion, including any discretionary conservation recommendations provided by FWS.

Based on best available information, we know that there are at least three federally listed species in the analysis area: the Mexican Spotted owl (MSO), the Jemez Mountain salamander, and the New Mexico meadow jumping mouse. Based on previously completed mapping, we believe that both MSO and Jemez Mountain salamander have designated critical habitat both within and near the action area. This is not discussed within the scoping materials, except for the fact that MSO PAC locations within the project area have been noted, but must be both disclosed and analyzed within the DEIS. The identity of all listed species and critical habitat within the project area must be presented in the DEIS, along with the potential impacts to those species and habitats. We also note that USFS should include a comprehensive monitoring and mitigation strategy for all listed species as part of the DEIS and any project that moves forward within the area.

The following are additional species-specific comments that USFS should consider when evaluating the best available science as to the likely impacts to listed species and critical habitat:

Mexican spotted owl

While scoping materials suggest that ground disturbing activities will not take place in critical habitat, this does not negate the significant impacts to MSO that may occur based on activities that may take place throughout the proposed action area. Mexican spotted owls have been threatened throughout the Southwest for many decades, and recovery has not been achieved. Moreover, because of their use of a wide variety of habitats and the number of projects that take place on forest lands, the cumulative effects to this species are significant in any large-scale project undertaken over many years.

Breeding and nesting periods are a particularly significant time for raptor populations. In studies of MSO in New Mexico, breeding and nesting activities took place from March until July (Delaney et al. 1999:44). Additionally, foraging behavior also increased during this period (Delaney et al. 1999: 46). It is

also important to note that MSO rely on small prey species, and the impacts of activity associated with this project on those populations are important to understanding the overall impacts to MSO viability and recovery. It is unclear based on the scoping materials how much ground disturbance and overall habitat fragmentation that might directly impact prey species would occur. This should be made clear in the DEIS.

MSO are also particularly sensitive to noise pollution and disruption caused by human activities. Because of the potential scope of the geothermal activities within the entire project area, we assume that noise pollution throughout the lifespan of these activities will be varied, dispersed, and significant. Studies of MSO have demonstrated that noise from even relatively limited recreation activities can disrupt owl activity and have “caused declines in several important activities that could adversely affect the reproductive success of owls” (Swarthout and Stiedl 2003: 311). The research suggests that human activity of any kind, especially near nesting sites, can create disruptions to MSO behavior and activity that directly threaten reproductive success. We encourage USFS to analyze the potential noise impacts from this project and future related activities as it considers the impacts to MSO in the area. Further, we request USFS assess how noise pollution and human behaviors in the area from ongoing recreation will contribute to the cumulative impacts here.

Jemez Mountain salamander

Jemez Mountain salamanders may be adversely impacted in a variety of ways if this project were to move forward. As part of this project, ground disturbing activities and construction of infrastructure is likely to occur, and potentially increase over time. Salamanders live in various forest-types, but rely on access to underground habitat. Compaction or changes in soils and ground cover may adversely impact the salamander’s habitat in the project area. Additionally, development of any kind could remove and fragment salamander habitat. This is especially problematic for isolated populations.

New Mexico meadow jumping mouse

The Forest Service needs to clarify whether and where New Mexico meadow jumping mouse occurs within the project area. The Jemez Mountains are one of the only known places where this jumping mouse occurs, and research suggests that the mouse no longer exists in 73% of its historical habitat in this area (Frey and Melaney 2009). While the primary threat to jumping mouse is livestock grazing and disruption of riparian habitat, there is the possibility that this project may lead to increased activity in and around areas that jumping mouse inhabit. Additionally, USFS must disclose whether any recreational activities or livestock grazing may be pushed into or nearer to jumping mouse habitat as a result of this project.

VIII. The public’s use of, and interest in, this area.

The EIS should include extensive analysis of the public’s use of, and interest in, this area. Public use in the Jemez is high for hiking, backpacking, equestrian trail riding, hunting, and fishing. Tribal connection with the entire Jemez valley is extremely high as well. It likely has one of the highest levels of public use of any public land in the State of New Mexico, with the possible exception of the Sandia Mountains and the area immediately adjacent to Santa Fe. People care deeply and passionately about this area.

SFNF should consider this, both with regards to whether leasing is actually appropriate, and also with regards to any future public meetings it may choose to hold at future stages of this process. SFNF has discretion to allow longer comment periods and a greater number of public meetings than the

number required by NEPA. It can also hold public meetings outside the immediate area of impact. We recommend future meetings be held in Albuquerque, Jemez Springs, and Los Alamos, in addition to Cuba and Santa Fe. This is an instance where these discretionary actions would be extremely appropriate.

IX. Conclusion

As currently written, the proposal does not meet SFNF's responsibilities to preserve public land for the use and enjoyment of future generations of Americans. We doubt geothermal production can happen in this area on a commercially viable scale, leading to a concern that the proposal is geared towards infrastructure development without an end goal of substantially benefiting the public trust. On the other hand, development in this area does come with a high likelihood of damage to water, endangered species, roadless areas, and the level enjoyment of the Jemez Ranger District currently felt by thousands of people every year.

When viewed in this light through proper NEPA analysis, we believe it should become clear to SFNF that this area is better left in its current state, or at the very least, that the proposal must be re-written to exclude IRAs, to include adequate lease stipulations, and to sufficiently protect water bodies and endangered species.

Thank you for your consideration of our comments, please include these comments and maps as part of the project record, let us know if you have any questions, and please keep us on the list of interested parties.

Sincerely,

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