

**DECISION RECORD
NEW YORK CANYON
GEOTHERMAL UTILIZATION AND INTERCONNECT PROJECT
ENVIRONMENTAL ASSESSMENT
DOI-BLM-NV-W010-2012-0005-EA**

Introduction

The BLM Humboldt River Field Office (HRFO) received a proposed geothermal Plan of Utilization (POU) and a geothermal Plan of Development (POD) from Terra-Gen Power Dixie Development, LLC (TGP) on March 8, 2011, under the provision of 43 CFR 3271.10. The proposed POU and POD include the following items:

- a geothermal power plant (up to 70-Megawatt), requiring up to 60 acres;
- up to 30 total (in addition to the 15 authorized exploration wells) geothermal production, injection, and/or observation wells, on previously approved well pad acreage (42 acres);
- geothermal steam/fluid pipelines requiring up to 20 acres;
- an airstrip and an airplane hangar requiring up to 15 acres for the purpose of employee commuting;
- a 26 mile 230-kilovolt electrical line, an expansion to an electrical substation, and support facilities requiring approximately 38 acres;
- up to three water wells (requiring 550 acre-feet of water annually); and
- new access roads and improvements to existing roads for project area access beginning off of Pershing County's Dago Pass road.

The New York Canyon Geothermal Lease Area is located primarily in Pershing with some overlap into Churchill County, Nevada. The Lease Area actually consists of thirteen geothermal leases all owned by TGP, and encompasses 28,618 acres. The Geothermal Development Area consists of 7,800 acres of lands within the Lease Area that have been surveyed for cultural and biological resources and would contain the well-field, the power plant, the air strip and hangar and the associated access roads. The Project Area includes:

- the Geothermal Development Area;
- the 200-foot generation tie-line corridor that extends 26 miles for the Proposed Action or 24 miles for Alternative 1, and
- a 150 foot by 150 foot area for the expansion of the Oreana substation for the Proposed Action, or the 5 acre site on BLM-administered lands for a new substation under Alternative 1.

On February 2, 2010, in the exploration phase of the project, TGP submitted to the BLM, an application for a right-of-way (ROW), for off-lease access roads to the Lease Area and access roads and above ground piping between six of the leases. The ROW had been assigned serial number NVN-88195. In addition, the Lease parcels proposed to contain all facilities in this development stage except for the transmission line route and substation were unitized on June 1,

2011 and have been assigned serial number NVN-88828X, this allows for future utilization of the lease areas without an additional ROW application in accordance with the provisions of 43 CFR 3280. Although all powerline routes and plant types with associated locations were analyzed in the EA, a ROW application will not be submitted by TGP for the selected route until TGP determines which plant type and location based on successful exploration activities.

As required under the provisions of 43 CFR 3261.11 and .13, applications for a complete drilling program and individual Geothermal Drilling Permits (GDPs) would be submitted as the project initiates and progresses. Each application will be reviewed by a petroleum engineer and surface management specialist and requires approval by the Authorized Officer.

Alternatives

An EA was completed for the Proposed Action, Alternative 1 and the No Action Alternative. A description of each alternative follows along with a discussion regarding the development of Alternative 1. Refer to Rationale under the Decision in this document for the basis of selecting Alternative 1 over the Proposed Action. In addition, alternatives considered but eliminated from detailed analysis are summarized below.

Proposed Action

The items as described above in the Introduction were analyzed in this alternative.

Development of Alternatives

No unresolved conflicts regarding the Proposed Action within the power plant and wellfield area were identified to drive the creation of any alternatives which would still meet the purpose and need for the project: to commercially develop the geothermal resources and to construct and operate a commercial geothermal power plant and wellfield. Therefore, no action alternatives for activities within the powerplant and wellfield area were analyzed in the EA.

An alternative gen-tie route was identified during early communications between TGP and the HRFO as an attractive option to consider in light of possible resource conflicts along the Proposed Action gen-tie route. This alternative gen-tie route is the distinguishing feature of Alternative 1 presented in the EA. The Alternative 1 gen-tie also avoids passing through the rough topography of the Humboldt Range, avoids existing mining activities and paleontologically significant rock formations and avoids identified bat habitat including hibernation sites. This alternative connection route is described below, under Alternative 1.

Alternative 1

Alternative 1 is the same as the proposed action description with the exception of a different gen-tie route and associated substation. The Alternative 1 gen-tie is 24 miles in length requiring approximately 35 acres and runs directly north up Buena Vista Valley to interconnect with the existing NV Energy Tracy-to-Valmy 345-kV transmission line. The Alternative 1 gen-tie requires the construction of a new 5-acre substation at the interconnect point.

No Action Alternative

Previously approved actions in the Project Area would continue and would have effects on the environment the New York Canyon Geothermal Exploration Project would occur. This project was analyzed in the New York Canyon Geothermal Exploration EA (DOI-BLM-NV-W010-2010-0004-EA). Well pads would be developed, geothermal wells would be drilled and flow tested, and temporary access roads would be constructed. All of these project features would be removed and the landscape would be revegetated per BLM guidance. Along the gen-tie portions of the Project Area, other ongoing and proposed activities would continue, such as grazing, mining, and dispersed recreation.

Alternatives Considered But Not Analyzed in Detail

Because the purpose of the project is to develop geothermal resources in the Lease Area and to bring generated electricity to the existing electric grid, alternatives considered were generally limited to where the power plant would be located and how the electricity would be brought to market. Both the Proposed Action and Alternative 1 identify the same four candidate power plant sites within that Lease Area. This flexibility of plant location is needed by TGP and the plant location would be largely determined by the location of a viable geothermal resource within the Lease Area. Since plant flexibility was proposed by TGP, it needed to be a component of any individual alternative. The candidate power plant locations were, however, proposed to avoid the southern portion of the Lease Area, which was identified during the Exploration EA process to be sensitive to Native American resources. The candidate power plant locations were also proposed to avoid ephemeral streams, existing right-of-ways and range improvements. Due to this built-in need for flexibility in plant siting and the active avoidance of identified sensitive environmental and Native American resources, no other alternatives were deemed necessary related to power plant location.

What remained in terms of alternatives to be analyzed was the routing of the gen-tie line. The proposed action initially included an additional transmission route, referred to as the Fencemaker Pass. The Fencemaker Pass Route would have resulted in the 230 kV gen-tie line running eastward from the northern portion of the Lease Area across Fencemaker Pass, down into Dixie Valley, and south to the existing TGP-owned Dixie Valley geothermal power plant, where the line would then connect into the existing TGP-owned Dixie Valley line. The Dixie Valley line ties into the California electrical grid. At 16 miles in length, the Fencemaker Pass route would have been the shortest route to the electrical grid.

Visual simulations were prepared for all traditional use sites identified by the Tribes and these simulations were presented to the Tribal councils by the BLM in late 2012. After reviewing the project materials and visual simulations, the Tribes expressed concern with the proximity and visibility of the Fencemaker Pass route to some of their traditional use sites. The Fencemaker gen-tie route would have passed through one NRHP eligible Traditional Cultural Properties (TCP) and was highly visible from several other TCPs. The Tribes also expressed concern regarding the number of Pinyon trees that would need to be cut down within and around a NRHP eligible TCP to construct this gen-tie line. Ultimately, the Proposed Action was modified by the applicant during the NEPA process. Rather than developing and analyzing an alternative to avoid the sensitive resources, the applicant chose to remove the Fencemaker route from their proposal.

Conformance

The Proposed Action and Alternative 1 are subject to and in conformance to the BLM, Winnemucca Sonoma-Gerlach Management Framework Plan (MFP), dated July 9, 1982. Objective M-5 of the Sonoma-Gerlach MFP states: “Make energy resources available on all public lands and other lands containing federally owned minerals.” However, the MFP decision at M-5.5 established restrictions on certain public lands.

DECISION

Based on the New York Canyon Geothermal Utilization and Interconnect Project EA DOI-BLM-NV-W010-2012-0005-EA and the attached Finding of No Significant Impact (FONSI), it is my decision to select Alternative 1 for implementation, subject to all the mitigation developed in the EA, which will now be referred to as Conditions of Approval (COAs). See attached. Also included on the COA attachment are the environmental protection measures committed to by the operator in Alternative 1. Alternative 1 is also subject to the individual lease stipulations which were developed at the time of issuance of the leases. These are attached to this Decision Record for reference. These mitigation measures will be individually attached to each approved GDP as COAs. The individual lease stipulations developed at the time of issuance of the leases are also attached and are part of this decision as well as the terms and conditions for the ROW grant. Additional conditions for any authorizations implementing Alternative 1 are as follows:

- Concurrence of the Eagle Conservation Plan by the US Fish and Wildlife Service prior to issuance of any authorizations.
- All rights and permits must be final prior to proceeding with facility construction. The project will not be allowed to proceed until sufficient water rights/appropriations have been applied for and obtained, and the approval is subject to the operator's acceptance and compliance with any additional constraints that any regulatory agencies may require.
- Establishment of a proven resource is a condition precedent to utilization activities. Plant construction may not proceed until the geothermal resource has been proven by the drilling of at least one well determined to be capable of production in paying quantities.
- Construction will not begin until the following permits are obtained:
 - Facility construction permit (43 CFR 3272)
 - Site license (43 CFR 3273)
 - Commercial use permit (43 CFR 3274)
 - Notice to Proceed (Form 2800-15)

The BLM will be responsible for monitoring approved operations to ensure compliance with COAs and lease stipulations in accordance with 43 CFR 3260 and 43 CFR 2800.

Alternative 1 includes construction of an up to 70-Megawatt geothermal power plant; up to 30 total (these are in addition to the 15 previously authorized exploration wells) geothermal production, injection, and/or observation wells; construction of geothermal steam/fluid pipelines; construction of an airstrip and an airplane hangar; construction of a 230-kilovolt electrical line, an electrical substation, and support facilities; drilling of up to three water wells; and construction of new access roads and improvements to existing roads within the Project Area.

Each of the three potential plant designs described in the POU (flash, binary and geothermal combined-cycle) would use a dry cooling system or a hybrid cooling system. Using dry cooling technologies would allow for the elimination of evaporating water in the cooling cycle. Technical difficulties in using air cooling for a flash or hybrid flash plant may require the use of a limited amount of water (up to 500 acre-feet per year, which is less than the 3,400 acre-feet per year that a wet cooling system may have lost through evaporation) during hot weather conditions. The addition of a limited amount of water to a dry-cooling system creates a hybrid cooling system. A hybrid cooling system combines wet and dry cooling technologies. These systems reduce cooling water quantities by 85 percent from that needed for wet cooling (from 3,400 acre-feet per year down to 500 acre-feet per year).

TGP would install up to three non-potable water wells with an estimated depth of up to 500 feet. The well(s) would be permitted under an Oil and Gas Waiver by the Nevada Division of Water Resources. The water quality would be non-potable water with high salinity and levels of dissolved solids. Alternatively, TGP would secure water rights, either through new appropriations, or through entering into long-term water supply agreements with local ranchers who already have water rights.

Interim and final reclamation activities proposed for this project are described in section 2.1.10 of the EA and have been designed to suit the concerns raised through Native American Consultation and remain consistent with BLM and Nevada Division of Minerals (NDOM) requirements.

The proponent will not initiate any construction or other surface disturbing activities without prior written authorization of the Authorized Officer. Such authorization will be a written Notice to Proceed (Form 2800-15), issued by the Authorized Officer or his/her delegated representative. The Authorized Officer will issue a Notice to Proceed subject to such terms and conditions as deemed necessary when the design, construction, use, occupancy, and operation proposals are in conformity with the terms and conditions of this instrument.

Rationale

1. Alternative 1 is in conformance with the Sonoma-Gerlach MFP dated July 1982.
2. Alternative 1 is in conformance with the Energy Policy Act of August 2005.
3. Based on Native American Consultation (see *Native American Consultation* below for details), it is determined that this is a well informed decision.
4. Based on the public involvement (see *Public Outreach/Involvement* below for details), it is determined that this is a well informed decision.
5. The Decision to select Alternative 1 meets BLM's Purpose and Need for action.

6. The EA analyzed and disclosed the environmental effects of implementing this Decision.
7. The FONSI for Alternative 1 supports the Decision.
8. The Lease Stipulations, the applicant proposed environmental measures and the COAs are sufficient to protect resource values and meet BLM's multiple use, sustained yield mission, while allowing for implementation of Alternative 1.
9. The four additional conditions of approval listed under the Decision above.
10. Alternative 1 results in less ground and habitat disturbance and less potential for erosion and sedimentation.
11. Alternative 1 would not pass over any areas of Potential Fossil Yield Class (PFYC) 4 or 5 and a Paleontology Monitoring Plan (PMP) would not be necessary. A PMP would be necessary under the proposed action.
12. Alternative 1 would impact 6 acres of Farmland with Statewide Importance verses 13 acres for the proposed action.
13. No impacts on bats are expected under Alternative 1 as compared to the proposed action where mitigation is necessary to reduce impact on bat hibernation areas.
14. Visual impacts would be less under Alternative 1 than under proposed action because no part of the construction would be within or on Visual Resource Management Class III lands.
15. Implementation of this Decision will not result in any undue or unnecessary environmental degradation of the public lands and is consistent with federal, state, and local laws, regulations and plans.
16. Development of geothermal resources at the New York Canyon site supports state and federal initiatives to expand development and use of renewable energy resources.
17. Based on the President's National Energy Policy and Executive Order 13212, the Proposed Action will not generate any adverse energy impacts or limit energy production and distribution. Therefore, no "Statement of Adverse: Energy Impact" is required per WO IM No 2002-053 and NV IM 2002-049.

Native American Consultation

Native American Consultation has been continuous throughout the evaluation of this project. Consultation letters for the proposed project were sent out to the Fallon Paiute-Shoshone Tribe, the Lovelock Paiute Tribe, Pyramid Lake Paiute Tribe, and interested tribal members from April 14 to April 25, 2011. Follow-up letters were sent on March 12, 2012. The project was introduced to representatives from the Fallon Paiute-Shoshone Tribe in consultation and informational meetings on June 15th and July 20th 2011. Calls to arrange a consultation meeting were made on July 5, 2012, and messages left with the receptionists at each tribal headquarters. Consultation meetings were held with the Lovelock Paiute Tribe on September 19th, 2012 and October 10th, 2012. A meeting with users of the TCPs was also held on October 10th, 2012. A joint consultation meeting with representatives from the Fallon Paiute-Shoshone Tribe and the Lovelock Paiute Tribe were held on March 15, 2013. A consultation meeting on the preliminary EA occurred with the Fallon Paiute Shoshone Tribe on May 17th, 2013.

From previous consultations, it was known that there could be visual impacts from the exploration drilling and well pads (including sumps) on the setting of the TCPs. To assess any potential impacts to the eligible TCPs, a line-of-sight analysis and visual simulations were done from several key observation points (KOPs). The KOPs were determined by the users of the

TCPs.

The viewshed analysis indicated the power plant, regardless of the site selected from amongst the four identified potential sites, would be visible from two of the thirteen KOPs. These two KOPs are not pine nut collection sites, but rather locations selected along the road that crosses Buena Vista Valley that would be traveled by automobile en route to the Stillwater Range. At the time the visual simulations were prepared, the Proposed Action included a gen-tie line that extended across the Fencemaker Pass into Dixie Valley (refer to Alternatives above for information regarding this route). This gen-tie came close to several KOPs and was highly visible. Given these results, it was determined that the Proposed Action could result in impacts on the viewshed from some of the TCPs through the introduction of gen-tie towers and lines in otherwise natural landscapes that are largely uninterrupted from other man-made features. The visual simulations were presented to part of the Lovelock Tribal Council on September 19, 2012. The following questions came out of consultation to be addressed in the evaluation of the proposal:

1. Would their access to any of the TCPs be limited by the development of the geothermal resource?
2. What will be the lighting of the plant at night? How will it appear from the TCPs?
3. How much new access road will be built for the transmission lines? How will this effect access in and out of the TCPs?
4. How many pinyon trees will be cut to put in the transmission lines?
5. Will a steam cloud be visible from the plant? What time of year will it be visible?
6. What would be the noise generated by construction of the plant, the drilling of the wells, and the operation of the plant? How noisy will the plane flights be? This is a concern since the quiet and serenity of the TCPs are important elements.
7. What would be the visual impact of the well pads, piping and roads going into the plant?
8. One of the reasons they go to the TCPs is for solitude and to escape the modern world around them.

TGP has been working with the Lovelock and Fallon Paiute Tribes through both the exploration and development EA processes. It was acknowledged that TGP's exploration and development plans would result in some level of impact to the natural and traditional quality of the setting for at least one of the TCPs. Based on the analysis of these issues, the BLM recommended the following mitigation to reduce impacts on TCPs. The Decision is subject to all of these recommendations and they are now referred to as COAs.

- TGP shall not block access for the Native Americans to CrNV-02-9535 and CrNV-02-9577, nor put any impediments along these two routes which would prohibit travel along these routes by the Native Americans. Allow Native Americans access to TCPs and sacred sites. TGP shall not block access to the road running along the ridge of the Stillwater Range.
- TGP shall not conduct any off-road or cross-country travel. All vehicular travel must be on roads built and maintained by TGP.
- Well pads including sump perimeters in the southern leases (N-86890, N-76300, and

N-76299) shall be successfully re-vegetated within six months after drilling and flow testing. Re-seeding shall be done using weed free and BLM approved seed mixtures. If used for production, the remaining unvegetated area must be less than 15 feet x 15 feet.

- All non-emergency construction, drilling and maintenance shall be prohibited in the southern leases (N-86890, N-76300, and N-76299) during September and October. If the pine-nut season extends into November, the above-listed activities shall be prohibited during that month. Each year, through consultation with the tribes and TCP users, the BLM will determine if the pine nut season extends into November.
- All exploratory drilling shall be done within 3 years.
- To reduce visual impacts to the settings of the TCPs, unless used for production, all well pads outside of the leases mentioned in #3 will be reclaimed and revegetated within 6 months of exploratory/production drilling. For the wells used in production, the remaining unvegetated area must be less than 15 feet x 15 feet. All other areas of the production well pad must be re-vegetated within 6 months of construction.
- No pinyon trees marked as “Seed Trees” will be cut down for any of the construction.

A consultation meeting on the preliminary EA occurred with the Fallon Paiute Shoshone Tribe on May 17th, 2013.

The Decision is also subject to lease stipulations and applicant proposed environmental measures. All of these together are sufficient to mitigate the adverse effects to the NRHP eligible TCPs in the vicinity of the Project Area.

Cooperating Agencies

The cooperating agency relationships established during this project facilitated the exchange of views and expertise between BLM personnel and other government officials and staff. This form of consultation, unique to planning and NEPA processes, was utilized in the shaping of this EA. The BLM formalized cooperating agency relationships with two governmental parties: Nevada Department of Wildlife and Pershing County.

Intergovernmental Partners

Under the Federal Land Policy and Management Act (FLPMA) of 1976, the BLM’s coordination responsibilities include maximizing consistencies with the plans and policies of other government entities. For this project BLM coordinated with the United States Fish and Wildlife Service and the Department of Energy to insure that these consistencies were addressed.

Public Outreach/Involvement

In addition to internal scoping, a 30-day scoping period, beginning in April 22, 2013, yielded 11 comments from two State of Nevada agencies. The issues identified during this scoping were incorporated into the development of the EA, along with discussions with other agencies, and the professional insight of BLM staff.

The preliminary EA was posted on the BLM's Winnemucca District Office web page for a 30 day public review on April 22, 2013. Letters were also mailed to interested parties, notifying them of the Preliminary EA's availability. A press release, delivered electronically to media outlets throughout Northern Nevada, notified the public of the Preliminary EA's availability on the website. During this review period, a total of one comment email was received from The Nevada Clearinghouse, which contained comments from two coordinating state agencies, The Nevada Department of Water Resources (NDWR) and The Nevada Division of State Lands (NDSL).

In their email, the NDSL provided comments concerning direct, indirect and cumulative visual impacts with regard to lighting and design and location of infrastructure. The NDWR provided a comment reiterating that all use of water for drilling and/or dust control is subject to a waiver or permit issued by the state engineer, and that plugging and abandonment of wells or boreholes shall be in compliance with the Nevada Administrative Code.

All public comments were reviewed and considered, and substantive comments were addressed in finalizing the EA. A reasonable range of alternatives were considered for this utilization and transmission level project. Questions from the Nevada Division of State Lands had been adequately addressed in the EA, and thus required no additional revisions (see sections 2.1.11.18 Visual Resources, as well as direct, indirect and cumulative analysis for visual resources). Questions regarding night skies were addressed with added mitigation terminology (see section 4.3). Additional road traffic on Coal Canyon Road (near to prison) was not raised as a concern by the prison system. Wildlife concerns with flight traffic over the Wildland Management Areas were already addressed by Nevada Department of Wildlife. State Regulations pertaining to water rights and permitting issues raised by NDWR were already raised and communicated to the proponent.

Authority

The authority for this decision is contained in the Geothermal Steam Act of 1970, the Federal Land Policy Management Act (FLPMA) of 1976, the Code of Federal Regulations (CFR) at 43 CFR 3200 and right-of-way (ROW) Procedures at 43 CFR 2800.

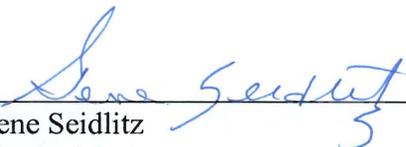
Appeal of the Decision

A person who wishes to appeal to the Interior Board of Land Appeals must do so under 43 CFR 4.411 and must file in the office of the officer who made the decision (not the board), in writing to Gene Seidlitz, District Manager, Winnemucca District, 5100 East Winnemucca Boulevard, Winnemucca, Nevada 89445. A person served with the decision being appealed must transmit the notice of appeal in time to be filed in the office where it is required to be filed within thirty (30) days after the date of service.

The notice of appeal must give the serial number or other identification of the case and may include a statement of reasons for the appeal, a statement of standing if required by § 4.412(b), and any arguments the appellant wishes to make. Form 1842-1 (enclosed) provides additional information regarding filing an appeal.

No extension of time will be granted for filing a notice of appeal. If a notice of appeal is filed after the grace period provided in §4.401(a), the notice of appeal will not be considered and the case will be closed by the officer from whose decision the appeal is taken. If the appeal is filed during the grace period provided in §4.401(a) and the delay in filing is not waived, as provided in that section, the notice of appeal will not be considered and the appeal will be dismissed by the Board.

The appellant shall serve a copy of the notice of appeal and any statements of reason, written arguments, or briefs under §4.413 on each adverse party named in the decision from which the appeal is taken and on the Office of the Solicitor, Pacific Southwest Regional Solicitor, U.S. Department of the Interior, 2800 Cottage Way, Room E-2753, Sacramento, California 95825-1890. Service must be accompanied by personally serving a copy to the party or by sending the document by registered or certified mail, return receipt requested, to the address of record in the bureau, no later than 15 days after filing the document.



Gene Seidlitz
District Manager
Winnemucca District

Date 6/3/13

Attachments:
FONSI
COAs
Lease Stipulations
Form 1842-1