## Utilization Operations

There are four components (permits) required for geothermal plant development

1. Utilization plan*
2. Facility construction permit (43 CFR 3272)*
3. Site license (43 CFR 3273)*
4. Commercial use permit (43 CFR 3274)

*Only required on federal lease or on split estate where BLM is the surface management agency. However, before testing a utilization facility not located on Federals lands a Sundry Notice describing the testing schedule and quantity of Federal geothermal resources expected to be delivered to the facility during testing.

## Recommended Project Documentation Submittals for Utilization Plan and Construction Permit

Provide the following information, per 43 CFR 3272.11:

1. A signed Sundry Notice (Construction Permit) requesting authorization to commence construction of a utilization facility.
2. Description of all proposed structure and facilities, their size, location and function, including acreage of disturbance associated with each facility. Include a table summarizing the disturbance type, dimensions of disturbance and total proposed acres of disturbance.
3. Describe facility operations including estimated total injection and production rates, estimated well flow rates, pressures and temperatures; facility net and gross electrical generation; and if applicable interconnection with other utilization facilities (multiple plants);
4. Maps ; hard and electronic contour maps that include: production and injection well pads, pipeline routes, facility locations, locations of laydowns and staging areas, drainage structures and culverts, existing and planned access roads, overland travel routes (Gold Book road construction standards), meridian, township, range and section (MTRS), scale, legend, land status, and lease boundaries.
5. Description of site preparation and associated surface disturbance including the source for site for road building materials, amounts of cut and fill, drainage structures and culvert placement and design, analysis of all evaluation studies given for the site (hydrologic studies, geotechnical studies, meteorological studies, etc.) for the site, and a description for any additional tests, studies, or surveys which are planned to assess the geological suitability of the site.
6. The source, quality and proposed consumption rate of water to be used during facility operations and the source and quality of water to be used during facility of construction
7. The methods for meeting air quality standards during facility construction and operations especially standards concerning non-condensable gases.
8. An estimated number of personnel needed during construction and operation of facility
9. A construction schedule
10. A schedule for testing of the facility and or well equipment, and for the start of commercial operations
11. A description of measures that will be used to minimize visual impacts

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12. Detailed description of the environmental protection procedures and best management practices (BMPs). If referencing BMPs in other documents, sight source (include edition and page number)
13. Final reclamation plan addressing reclamation of roads, drill pads, and sumps back to original contour, seeding, controlling noxious weeds, and may also include other techniques to improve reclamation success, such as ripping, scarifying, replacing topsoil, constructing waterbars, pitting and barricading, and reseeding measures. Demolition and removal of facilities, pipelines, culverts, transmission lines, substations, total site reclamation and well abandonment.

## Project Documentation Submittals for Site License

Provide the following information, per 43 CFR 3273.15:

1. A description of the boundaries of the land applied for, as determined by a certified licensed surveyor. Lands described should include all Federal acreage necessary to utilize the geothermal resource. E.g.: utilization facility, substations, cooling towers, repair and storage facilities, etc.
2. A description of the meridian, township, range and section (MTRS)
3. The total acreage of the utilization facility.
4. The filing fee for a site license application to be paid at the appropriate BLM District Office(found in the fee schedule which is located at 43 CRF 3000.12 )
5. A site license bond to Nevada State Office(see §3273.19);
6. Documentation that the lessee or unit operator accepts the siting of utilization facility, if the facility operator is neither the lessee nor the unit operator.

## Project Documentation Submittals for Commercial Use Permit (CUP)*

Provide the following information, per 43 CFR 3274.11:

1. A signed sundry form requesting approval of a commercial use permit
2. The design specifications, and the inspection and calibration schedule of production, injection, and royalty meters
3. A schematic diagram of the utilization site or individual well, showing the location of each production and royalty meter. If the sales point is located off the utilization site, give us a generalized schematic diagram of the electrical transmission or pipeline system, including meter locations
4. A copy of the sales contract for the sale and/or utilization of geothermal resources;
5. A description and analysis of reservoir, production, and injection characteristics, including the flow rates, temperatures, and pressures of each production and injection well;
6. A schematic diagram of each production and injection well showing the wellhead configuration, including meters
7. A schematic flow diagram of the utilization facility, including interconnections with other facilities, if applicable
8. A description of the utilization process in sufficient detail to enable BLM to determine whether the resource will be utilized in a manner consistent with law and regulations;

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9. The planned safety provisions for emergency shutdown to protect public health, safety, property, and the environment. This should include a schedule for the testing and maintenance of safety devices;
10. The environmental and operational parameters that will be monitored during the operation of the facility and/or well(s).

***** Prior to submitting the complete CUP package, it is recommended that the operator submit a general description of how metering will be conducted so that compliance with 43 CFR 3275 can be ensured.

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