

4.15 CUMULATIVE IMPACTS

Council on Environmental Quality regulations state that the cumulative impact analysis should include the anticipated impacts on the environment resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time” (40 CFR 1508.7).

Impacts of the proposed action and alternatives presented in this EA are assessed for cumulative impacts along with other actions conducted in the region. Unless otherwise specified, the ROI for each resource in the cumulative analysis is the same as the ROI defined in Chapter 3.

Current or reasonably foreseeable actions that have been identified are described below.

CCFO 2006 Geothermal Leasing EA. On July 17, 2006, the FONSI and Decision Record (DR) for the CCFO Geothermal Leasing EA was signed by the Carson City Field Office Manager. As part of this Decision, eleven leases encompassing 17,450 acres were issued in the Salt Wells Leasing area (including Vulcan Power’s leases). To date, no other entities have applied for drilling permits, but the lease conveys upon the lessee the right to drill and future exploration is expected.

Salt Wells Geothermal Binary Power Plant and other geothermal energy development. AMP Resources, LLC is constructing a geothermal binary power plant in the area of Salt Wells adjacent to the project area. In addition, seven other geothermal power plants are operating within the CCFO management area, four of them on private land in the Steamboat Springs Area. Although no detailed proposals have been developed, geothermal development is being considered on private, tribal, and US Navy land throughout the CCFO management area.

Naval Air Station Fallon Integrated National Resources Management Plan. Naval Air Station Fallon is updating its integrated national resources management plan. The purpose of the plan is to ensure consistency with the use of Naval Air Station Fallon to support the preparedness of the Armed Forces, while providing for the conservation and rehabilitation of natural resources on Naval Air Station Fallon-administered lands, the sustainable multipurpose use of the resources, including hunting, fishing, trapping, and nonconsumptive uses, and public access to Naval Air Station Fallon-administered lands within safety and military security requirements. The overall goal of the integrated national resources management plan is to develop a program that preserves and enhances ecosystem integrity and sustains both biological diversity and continued availability of those resources for military readiness and sustainability and other human uses.

Borgna Oil and Gas Drilling Project. An oil and gas operator proposes to re-enter and deepen an existing well to a depth of 5000 feet. The existing well was drilled in 1990 to a depth of 2800 feet. This new proposed drill project would re-disturb the 1990 reclaimed area. Drill pad construction and a short segment of new road are proposed. The well site layout involves an area of 250 feet by 300 feet, 1.7 acres and includes the reserve pit, maneuvering/turnaround

area, mud tanks, pipe ramp and racks, fuel tank, 2 mud pumps, chemical toilet, generator, water tank, 2 worker/supervisor trailers, and drill rig. Access is via Highway 50, approximately 12 miles east of Fallon and via existing two-track road.

Land Use

The proposed project would not conflict with any land use designations under the Churchill County Master Plan. All identified cumulative projects, including the Proposed Action would comply with local land use regulations.

Soils, Geology, and Mineral Resources

The cumulative direct and indirect effects of the Proposed Action on soils, seismicity, and exploration and production of mineral resources are expected to be generally minor provided that the exploratory drilling and the operation of the current and future geothermal facilities in the area are in compliance with building codes, and state and local permit requirements.

Water Resources

Spills of fuels, hydraulic fluid, or other substances, while not likely, could occur during the construction phase of any cumulative project. A Storm Water Pollution Prevention Plan would be implemented for the construction phase of each cumulative project, and any accidental spills that occur would be cleaned up as required by the plan.

Individually, projects in the Salt Wells area tend to have minor impacts on water supply. Cumulative impacts, however, would have a greater impact on water supply. These impacts would depend on, for example, the timing of and scale of projects. Multiple large-scale projects occurring at the same time would have a greater impact on water supplies than sporadic projects.

Vegetation, Invasive Plant Species, and Sensitive Habitat Types

Vegetation may be removed during construction activities, such as staging, temporary storage, and pipeline maintenance. In areas where vegetation is removed, short-term, potential infestation of invasive weed species such as cheat grass could occur. There would be very little long-term cumulative disturbance.

Wildlife Resources

Construction activities, such as grading, digging, and the use of heavy vehicles, could result in temporarily disturbing wildlife under the Proposed Action and other cumulative projects. Habitat would be lost under cumulative geothermal projects.

Federally Listed Endangered and Threatened Species and BLM Sensitive Species

No federally listed endangered, threatened, and candidate species occur in the project area. Therefore, there would be no impacts to federally listed species or their habitat. A biological evaluation has been written which supports this finding (BAE#007-07).

Impacts to BLM sensitive species would be minor under the Proposed Action in conjunction with conservation measures. Development of cumulative geothermal projects would likely result in the same situation.

Range Resources

Cumulative impacts on range resources from the project listed above are minor, as most of the projects involve relatively small acreages. Because the direct impact of the proposed action would have a negligible impact on grazing resources, the Proposed Action would not contribute to the cumulative impact in any measurable way.

Visual Resources

Potential geothermal development in the future would increase the number of highly visible human-made structures in areas currently devoid of any apparent human-made structures. This would substantially reduce the natural undeveloped landscape of the area. Cumulative impacts could be very noticeable because future structures would not blend with the surrounding natural landscape. Sensitive receptors in the area would be negatively affected by cumulative projects and Visual Resource Management Class III objectives may not be met. Minimizing cumulative impacts could involve collocating geothermal plants, pipelines, and transmission lines.

Public Health and Safety/Hazardous Materials

Impacts to workers, the public, and the environment could result from disturbance of preexisting hazardous materials within cumulative project areas, or through exposure to hazardous materials used in the construction, operation, and maintenance of the a project. By adhering to proper regulations on hazardous material use and transportation, however, the risk for potential cumulative impacts from hazardous materials would be low.

The implementation of the Proposed Action and other cumulative geothermal developments could increase the potential for a fire and affect general public safety. By adhering to local regulations pertaining to public health and safety, and by following standard operating procedures, safety impacts would be minor.

Air Quality

The proposed action would not result in significant regional air quality concerns. Other actions occurring on public lands, in combination with the proposed action, release low levels of air emissions, dispersed over large and sparsely populated areas. The resulting pollutant concentrations tend to be low, with limited fluctuations in air quality. The proposed action would not substantially increase pollutant emissions in Nevada; therefore, no cumulative impacts are expected.

Recreation/ Special Designations

Most of the indirect impacts to recreation from the proposed project involve possible access limitations to recreation areas; scaring away wildlife; and reducing overall recreational enjoyment through possible diminishment of recreation area/adjacent land visual quality and the creation of disagreeable odors (i.e. hydrogen sulfide odors). As the amount of industrial activities in the area increase, the impacts on recreation would increase.

Socioeconomics and Environmental Justice

The cumulative projects listed above would result in only minor impacts on socioeconomic resources. Employment and expenditures associated with the geothermal development of the Salt Wells Area (and other areas in the region) would benefit the local economy, increasing incomes and property values, and supporting more development of public services. The Proposed Action would not contribute in any measurable way to this minor beneficial cumulative impact.

Because the Proposed Action would have no impacts on environmental justice, there would be no cumulative impacts on environmental justice.

Cultural Resources

Cumulative impacts on cultural resources from the above projects could pose a risk of significant impacts regionally since it is unknown if any of the above would adversely affect historic properties. However, because the proposed action would not have a significant impact on NRHP-listed or -eligible historic properties, the proposed action would not contribute to the cumulative impact.

Given the absence of Native American resources within the project area, no cumulative impacts are expected.

Native American Tribal Trust Assets

Given the absence of trust assets within the project area, no cumulative impacts are expected.