

# MONO COUNTY COMMUNITY DEVELOPMENT DEPARTMENT

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PO Box 347  
Mammoth Lakes, CA 93546  
760.924.1800, fax 924.1801  
commdev@mono.ca.gov

PO Box 8  
Bridgeport, CA 93517  
760.932.5420, fax 932.5431  
[www.monocounty.ca.gov](http://www.monocounty.ca.gov)

## NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT & PUBLIC SCOPING MEETING

**PROJECT NAME:** Mammoth Pacific I (MP-1) Replacement Plant Project. **PROJECT LOCATION:** 94 Casa Diablo Cutoff (northeast of US 395/SR 203 junction). **COMMENT DUE DATE:** March 7, 2011. The Mono County Economic Development Department, as the Lead Agency, will require the preparation of an Environmental Impact Report (EIR) for the project identified herein. The Community Development Department requests your comments as to the scope and content of the EIR. A comprehensive project description and listing of potential environmental effects are included below. Also included is information on the Public Scoping Meeting to solicit input regarding the content of the EIR. The environmental case file is also available for review at the Community Development Department, Minaret Village Mall, 437 Old Mammoth Rd.

Mammoth Pacific, LP (MPLP) operates the existing geothermal development complex northeast of the junction of U.S. Highway 395 and State Route 203, and located about 2.5 miles east of the town of Mammoth Lakes in Mono County, California. MPLP proposes to replace the aging Mammoth Pacific I (MP-1) geothermal power plant with a more modern and efficient plant using advanced technology. The replacement plant will be called "M-1."

Both plants would be located on a 90-acre parcel of private land owned by MPLP. The replacement plant would be built approximately 500 feet northeast of the existing plant. The replacement plant and associated structures and equipment would occupy a little more than three acres. The existing entrances to the geothermal complex would provide access to the replacement plant site.

The existing plant was the first geothermal power plant to be built at the Mammoth Pacific Complex, commencing operation in 1984. It was one of the first geothermal power plants in the United States to use binary cycle technology (i.e., the use of a secondary motive fluid to extract heat from geothermal fluid to generate electricity). Binary technology has advanced significantly since the existing plant was constructed. The design capacity of the existing plant is 14 megawatts (MW). Electricity generated by the plant is sold to Southern California Edison. The plant itself (without surrounding supporting shops, pumps, wells, etc., none of which would be altered by the proposed project) occupies about 2.5 acres.

The replacement plant would utilize Ormat Energy Converters (OEC). An OEC is proprietary modular binary geothermal power generation equipment, manufactured by Ormat Systems, Ltd., and is comprised of a vaporizer, turbine(s), a generator(s), air-cooled condenser (cooling system), preheater, pumps, and piping. The design capacity of the replacement plant would be approximately 18 MW (net). No new geothermal wells would be constructed for the replacement plant; it would use the same geothermal fluid from the existing geothermal wells that currently supply MP-1. The total brine flow for the MPLP complex would not increase beyond what is currently permitted. The only new pipeline needed would be an extension of the existing pipes to/from the existing plant site to the replacement plant site.

The proposed OEC binary technology uses both high- and moderate-temperature geothermal resources to extract heat energy from geothermal fluid. With this process geothermal fluids are produced from production wells either by artesian flow or by pumping. Once delivered to the power plant, the heat in

the geothermal fluid is transferred to the "motive" fluid in multiple stage non-contact heat exchangers. The geothermal heat vaporizes the motive fluid and turns the binary turbine. The vaporized motive fluid exits the turbine and is condensed in an air-cooled condenser system that uses large fans to pull air over the tubes carrying the motive fluid. The condensed motive fluid is then pumped back to the heat exchangers for re-heating and vaporization, completing the closed cycle. The cooled geothermal fluid from the heat exchangers is pumped under pressure to the geothermal injection wells. This process design creates no visible emissions and no consumptive use of geothermal or motive fluids (other than very minor loss of motive fluid via fugitive emissions).

The existing plant uses isobutane as the binary motive fluid, whereas the new plant would use n-pentane. Bulk quantities of n-pentane would be stored in pressure vessels and bulk storage containers on the replacement power plant site. Numerous engineering, fire control and safety measures would be integrated into the project to prevent releases of n-pentane, prevent fires, and to respond to and control fires and other emergencies. The replacement plant motive fluid vapor condensate would be cooled in tube condensers by a dry air-cooling system that is more efficient than the existing plant.

A new 12.47 kV substation/switching station would be constructed adjacent to the replacement plant and would be connected to an existing transmission line on the site via a new interconnection line. All of the proposed new geothermal facilities would be located on the same private parcel on which the existing MP-1 plant is located.

During replacement plant startup operations, the existing plant would continue to operate until the new plant becomes commercial, after which time MPLP would close and dismantle the old plant. The transition period during which operations would overlap may be up to a maximum of two years after the replacement plant is commissioned. Thereafter, the existing power plant facilities, plant foundations and above-ground pipeline, and a retention pond on the existing site would be removed. The site would then be graded and the pad covered with gravel to provide an all-weather surface for continuing MPLP operations on the site.

The replacement plant would operate continuously. Plant and well field operations would be integrated via a computer link to the existing power plant control room. The expected life of the proposed replacement power plant would be a nominal 30 years. The existing MPLP staff would operate the replacement plant (no new operational staff would be needed). Up to 200 people may be employed temporarily during plant construction.

The project applicant is requesting a Use Permit and Reclamation Plan from the County to implement the above-described project.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, Hazards & Hazardous Materials, Hydrology/Water Quality, Noise, Mandatory Findings of Significance.

**PUBLIC SCOPING MEETING: Feb. 17, 2011, 7-9 p.m.** at the Mammoth Board of Supervisors Conference Room, Sierra Center Mall, third floor, 452 Old Mammoth Rd., Mammoth Lakes. Public testimony and written comments are encouraged and will be considered in the preparation of the Draft EIR. Written comments must be submitted by **March 7, 2011**. Please direct comments to: Dan Lyster, Economic Development Director, PO Box 2415, Mammoth Lakes, CA 93546, [dlyster@mono.ca.gov](mailto:dlyster@mono.ca.gov)