

ITEM: 20

Calpine Siskiyou Geothermal Partners, L.P. and CPN Telephone Flat, Inc. and U.S. Department of Agriculture, Forest Service and U.S. Department of Interior, Bureau of Land Management Glass Mountain Unit Geothermal Exploration and Development Projects, Siskiyou County

BOARD ACTION: *Consideration of Revised Waste Discharge Requirements (continuation of hearing from 5 May 2006)*

BACKGROUND: On 5 May 2006, the Regional Board held a hearing to consider adoption of revised waste discharge requirements (WDRs) for discharges of waste associated with exploration and development activities at the Glass Mountain Known Geothermal Resource Area (KGRA). The Regional Board continued the hearing. The revised WDRs would regulate land clearing, well pad construction, geothermal fluids sump construction, discharge of geothermal fluids and cuttings to the lined sumps, and the transfer of geothermal fluids in temporary pipelines from wells to sumps and back to wells for re-injection. The revised WDRs do not approve or regulate the injection of fluids into deep geothermal wells nor approve the construction and operation of an electrical generating power plant at the Telephone Flat facility. The U.S. Environmental Protection Agency (USEPA), the U.S. Bureau of Land Management (BLM), and the U.S. Forest Service (USFS) are the agencies responsible for approving operation of geothermal wells and power plants on this federal land.

The staff report prepared for the May hearing described existing and proposed geothermal/exploration activities by Calpine Siskiyou Geothermal Partners, L.P. and CPN Telephone Flat, Inc. (Calpine) conducted in accordance with a lease issued by the (BLM on federal lands administered by the USFS. The detailed staff report prepared for the 5 May 2006 hearing is included in this agenda package.

Geothermal exploration and development activities have occurred at the Glass Mountain KGRA Telephone Flat area for the past 20 years. The latest WDRs were adopted in 1995 and remain in effect until replaced by revised WDRs. Exploration and development activities and the possible construction and operation of an electrical generation geothermal power plant have undergone environmental review pursuant to the federal National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The Siskiyou County Air Pollution Control District (District) is the lead state agency under CEQA. The District certified the Telephone Flat Geothermal Development Project EIR on 14 February 2003. Geothermal exploration and development activities may continue even if revised WDRs are not adopted. The proposed revised WDRs would regulate waste discharges associated with the drilling and testing of geothermal wells including land clearing, well pad construction, geothermal fluids sump construction, discharge of geothermal fluids and cuttings to the lined sumps and the transfer of geothermal fluids in temporary pipelines from wells to sumps and back to wells for re-injection.

The proposed revised WDRs do not regulate the manner in which geothermal wells and "temperature gradient" holes are sited and constructed or the manner in which geothermal fluids are removed or re-injected into the geothermal aquifer. These sub-surface elements of exploration and development testing, including

casing leak detection and the use of additives such as acid for formation stimulation are regulated by BLM and the USEPA under the federal Underground Injection Control Program (UIC).

In addition to regulating possible surface waste discharges, the proposed WDRs limits exploration/development activities to those described in the permit's findings. Since the findings state that use of acid for formation stimulation is scheduled only for Well 31-17, a provision has been added that use of acid for formation stimulation in other wells may require revision of the WDRs including additional monitoring. The proposed WDRs also require the discharger to install four new monitoring wells to detect possible impacts on useable groundwater in the area that could be associated with extraction and re-injection of geothermal fluids. **A new and separate set of WDRs is required for discharges of waste associated with construction and operation of an electrical generating power plant at Telephone Flat.**

ISSUES:

At the 5 May 2006 hearing, several general and specific issues were raised by designated or interested parties and the Regional Board engaged in a lengthy discussion prior to extending the hearing. The significant general issues discussed were the continued exploration and ultimate construction of a power generating facility in the pristine mountainous area comprising the Medicine Lake Highlands, possible impacts to groundwater as a result of use of acid for formation stimulation and the CEQA/NEPA approval process completed by Siskiyou County and BLM/USFS. Specific issues were raised relating to the proposed WDRs including the placement of additional wells to monitor useable groundwater, the use of underground piping to transfer geothermal fluids, the possible use of steel tanks to contain acidified fluids and the adequacy of the financial assurances. The motion for continuance passed by the Regional Board asked staff to address these specific issues and revise the proposed WDRs where appropriate. Staff has spent substantial time researching these issues and is proposing several revisions to the proposed WDRs. The revised language is indicated in strikeout/underline text in the enclosed set of revised tentative WDRs, Monitoring and Reporting Program and Information Sheet. Following is a summary of the proposed revisions:

1. The financial assurance language now specifies the basis for calculating the amount required for corrective action for known or reasonably foreseeable releases. The Discharger has provided documentation for this determination on September 2006 (copy included in agenda package).
2. The use of underground piping for transfer of geothermal fluid has been eliminated.
3. The use of steel vessels for containment of acidified geothermal fluid has been determined to be infeasible, however, a testing program for determining potential leaks in the geothermal fluid sumps has been included in the monitoring and reporting program.
4. The Discharger has proposed the installation of three shallow monitoring wells. The proposed WDRs require the Discharger to install three shallow monitoring wells and one deep monitoring well as initially stated in the Comprehensive Hydrology Monitoring Plan (Attachment E). Staff is presently reviewing the Discharger's proposal and in consultation with Dr. Robert Curry and others will determine the most appropriate placement. If

BLM issues sundry notices for acidification of wells in addition to No. 31-17, the proposed Order contains language requiring formal revision of WDRs. Additional monitoring wells may be required as a result.

The Board also expressed concerns about the adequacy of the CEQA review conducted by the Siskiyou County Air Pollution Control District (District), which is the CEQA Lead Agency. In 2003, the District certified an environmental impact report (EIR) and other associated environmental documents, and adopted an errata to the EIR after an administrative hearing denying a challenge to the EIR. The EIR included several mitigation measures associated with protection of water quality. The District as lead agency prepared an EIR and has broad authority for approval of the entire project. The Regional Board is a responsible agency pursuant to CEQA and, in this case, has limited authority with respect to the project, as described above. CEQA requires that a responsible agency consider the environmental documents prepared by the lead agency and reach its own conclusions on whether and how to approve the project. A responsible agency has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project that it decides to approve. In this case, the proposed WDRs include mitigation measures and monitoring related to the discharges of waste subject to the WDRs.

The CEQA document is subject to litigation. As a responsible agency, the Regional Board is required to presume that the CEQA document is valid for its purposes unless the CEQA document is finally adjudged in a legal proceeding not to comply with CEQA or a subsequent EIR is made necessary by Section 15162 of the CEQA guidelines. In this case, there is no final legal judgment, and, therefore, the Regional Board must presume that the EIR is valid. Section 15162 of the CEQA guidelines states that no subsequent CEQA document shall be prepared unless the lead agency determines that there are substantial changes in the project or substantial new information involving new significant environmental effects not previously considered. That is not the case here. The Regional Board is revising WDRs to regulate the disposal of waste to land; the Regional Board is not regulating the injection into geothermal wells or the approval or construction of a power plant. Federal agencies and the District have the authority for such approvals. There is no new information or substantial changes in the project subject to the Regional Board's approval.

The Notice of Public Hearing circulated for the continuation of this matter, on 8 August 2006 specifically restricted public comment to the proposed staff revisions discussed above. These revisions are delineated in "strikeout/underline" text in the attached WDRs. The notice required that comments be submitted by 8 September 2006. The notice further stated that comments regarding unchanged sections of the previously circulated tentative WDRs "**will not be accepted.**"

SUMMARY:

The proposed revised WDRs would regulate the discharges of waste associated with exploration and development activities. They contain requirements that provide protection of ground and surface waters with possible waste discharges that may take place at or above the ground surface (land clearing, well pad construction, sump construction, discharge of geothermal fluids and cutting to sumps and the transfer of geothermal fluids via pipelines between wells and sumps). In addition, additional monitoring wells are required to provide early detection of any possible leakage or release associated with underground

pumping and re-injection of geothermal fluids; activities that are regulated by BLM and USEPA under the federal UIC Program. These WDRs are limited discharges of waste associated with exploration and development activities at Telephone Flat and do not regulate discharges that may be associated with construction or operation of a geothermal power plant. The discharges of waste associated with construction and operation of a geothermal power plant (at some possible later date) will be regulated by separate WDRs.

Mgmt. Review: _____

Legal Review: _____

26/27 October 2006

Central Valley Regional Water Quality Control Board
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