

MINUTE ITEM
This Calendar Item No. C112
was submitted for information
only, no action thereon
being necessary.

INFORMATIONAL
CALENDAR ITEM
C112

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06/19/98
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J. Adams

**STAFF REPORT ON THE PROGRESS OF THE SANTA ROSA
RECLAIMED WATER - GEYSERS RECHARGE PROJECT,
THE GEYSERS GEOTHERMAL FIELD,
SONOMA AND LAKE COUNTIES**

PARTY:

California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

BACKGROUND:

The State of California owns the steam resources beneath one-third of The Geysers geothermal field, with more than 7,000 acres under lease (State school lands). The State leases account for one-quarter of the field's total steam production, and provide about \$3 million per year in royalty revenue, which benefits the State Teachers Retirement System.

The Geysers is the largest geothermal development in the world. Its steam reached a peak level in the mid 1980's, but the productivity rate has gradually declined since then due to depletion of the subterranean water which creates the steam. Operators have, however, demonstrated that the field's productivity can be enhanced by the injection of water into the reservoir. The water is vaporized by contact with the high temperature rock, supplementing the naturally-occurring steam. Unfortunately, water has not been in plentiful supply for this purpose. An opportunity to correct this has developed recently through the City of Santa Rosa.

The City of Santa Rosa, about 30 miles south of The Geysers, has an excess supply of reclaimed water which will, in the next three years, become available for injection at The Geysers. Though much of this reclaimed water is used for agricultural and urban irrigation, seasonal excesses must now be dumped into the Russian River, often in violation of a Regional Water Quality Control Board discharge permit. Future increases in the regional population are expected to burden the existing system even more.

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To solve the problem, the City of Santa Rosa recently completed an extensive analysis of several alternatives for their water reclamation system. Commission staff were instrumental in facilitating a feasibility study for The Geysers Pipeline Option, leading an extensive review. The outcome of their analysis was the selection of the *Santa Rosa Reclaimed Water - Geysers Recharge Project*, a project that will transport eleven million gallons of water per day to The Geysers via a 34-mile underground pipeline. The water will be injected into the geothermal reservoir, mostly beneath State leases, and will enhance the productivity and extend the life of the field. Because the project will allow the City of Santa Rosa to dispose of excess reclaimed water, and provide The Geysers with additional water for injection, the construction and operating costs will be shared between the City of Santa Rosa and geothermal operators, primarily the State's lessees Unocal and Calpine Corporations.

In October, 1997, a very similar project was completed in Lake County, where a partnership of public and private entities funded construction of a 29-mile underground pipeline that now brings about eight million gallons per day of reclaimed wastewater to The Geysers. The water from the *Lake County Geysers Effluent Pipeline and Injection Project* is injected into the southern portion of the field, whereas water from the *Santa Rosa Reclaimed Water - Geysers Recharge Project* will be injected into the larger, northern part of the field. The Lake County pipeline began operation late last year and has already resulted in improved productivity in the vicinity of the water injection.

During the past two years, Commission staff has worked with its lessees and the City of Santa Rosa to promote The Geysers pipeline alternative, and has been working closely with the City of Santa Rosa to obtain grant funding from various State and Federal sources to offset its share of the costs and make the proposed project a reality. Commission staff will continue to assist the City of Santa Rosa with its efforts, and will follow closely the progress of this important project that is expected to increase the ultimate royalty revenue derived from State geothermal leases at The Geysers, thus increasing deposits to the State Teachers Retirement System for payment to California's retired teachers. Water injection from the project could begin by 2001.

PERMIT STREAMLINING ACT DEADLINE:

N/A

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