

**COMMENT LETTER 125 - STEWART & ASSOCIATES, LEONARD STEWART  
(OCTOBER 5, 1996), RECEIVED OCTOBER 7, 1996**

**Response to Comment 125-1**

*Comment Summary: The comment states that pump stations for the Geysers Recharge Alternative should be depressed to reduce noise impacts.*

Mitigation Measure 2.3.17: Pump Station Noise Control on page 2-93, identifies noise control measures including barriers such as earth berms. The measure also states that "Pump stations that exceed the noise criteria in Section 4.13 by more than 30 dBA shall be designed to be housed in a fully enclosed underground facility."

**Response to Comment 125-2**

*Comment Summary: The comment suggests that by depressing the pump houses, specifically with reference to the Geysers, the visual impacts could be eliminated or reduced to a level below significance.*

Locating the pumps underground will allow reduction in size of the structure housing the pump equipment, and as indicated in the comment could eliminate or reduce the long-term visual impacts of such structures. This additional mitigation can be considered during the Project selection process. However, it should be noted that the Geysers pump stations have large above ground storage tanks and also require new electrical lines which create significant and unmitigable impacts and will not be affected by placing the pump equipment underground.

**Response to Comment 125-3**

*Comment Summary: The comment asserts that the Geysers Alternative would not create odors and emissions.*

The Draft EIR/EIS does not say that the Geysers alternative will create odors and additional air pollutant emissions, except for emissions generated during construction activities.

**Response to Comment 125-4**

*Comment Summary: The comment states that the Geysers Alternative would have no significant impact on agriculture.*

One of the Geysers pump stations is located on prime farmland. The loss of farmland associated with this pump station is identified as significant. Refer to Table 4.2-9 on page 4.2-18 of the Draft EIR/EIS.

## **Response to Comment 125-5**

*Comment Summary: The comment states an opinion that because of the lack of storage reservoirs and minimal pipeline, the Geysers alternative constitutes a significant gain in environmental impact when compared with the irrigation alternatives.*

Table 1-13 provides a comparison of the significant impacts for each alternative. This table shows that Alternative 4, Geysers, has fewer significant impacts than the two irrigation alternatives. However, the EIR/EIS authors do not necessarily agree that the lack of reservoirs in the Geysers alternative results in a significant environmental gain. While impacts at the selected reservoir site will be avoided, the Geysers alternative has significant and unmitigable pipeline impacts which the irrigation alternatives do not have. Also, the EIR/EIS authors do not agree that the length of pipeline for the Geysers alternative can be characterized as “minimal”. The length of pipeline for this alternative is over 35 miles. In comparison, the pipeline length for the irrigation alternatives ranges from 50 to 60 miles.

## **Response to Comment 125-6**

*Comment Summary: The comment states that there is no evidence that injection of reclaimed water would increase seismicity, and further suggests that injection could reduce seismic activity.*

The EIR/EIS authors do not agree with the first sentence of the comment. The work of numerous researchers demonstrates that injection (and also steam production) causes microearthquakes. Appendix F-2 (Induced Seismicity Study-Geysers Recharge Alternative) indicates that increased injection is likely to increase the number of frequency of small earthquakes and develops an estimate of this increase.

Studies of seismicity induced at water impoundment reservoirs indicate that induced earthquakes tend to decline over the long term. However, the picture is not as clear with deep injection. At the Geysers, injection is often cycled or terminated depending upon the response of the rock surrounding the well in generating steam. It is likely that seismicity will decline in the vicinity of particular injector wells over the very long term. However, injection-related seismicity is likely to increase within the Project lifetime and in the foreseeable future. It is not yet feasible to predict a long-term decline of induced seismicity caused by the release of tectonic strain due to geothermal field operations.

## **Response to Comment 125-7**

*Comment Summary: The comment suggests that significant slope instability impacts related to the Geysers pipeline could be reduced by construction of an alternative pipeline alignment outside the existing Pine Flat Road right-of-way.*

Refer to Response to Comment 103-13.

### **Response to Comment 125-8**

*Comment Summary: The comment states that the California Division of Oil and Gas has stated that injection of “treated wastewater” would not cause contamination.*

The comment agrees with the conclusion of the Draft EIR/EIS that the Geysers alternative will not contaminate groundwater.

### **Response to Comment 125-9**

*Comment Summary: The comment states that pipeline ruptures can be averted.*

The Draft EIR/EIS concludes that mitigation can reduce the effects of pipeline ruptures, but the potential for rupture due to seismic activity or landsliding cannot be completely eliminated.

### **Response to Comment 125-10**

*Comment Summary: The comment states that power generation by steam derived from injection is not experimental.*

The Draft EIR/EIS is in agreement with this comment.

### **Response to Comment 125-11**

*Comment Summary: The comment states that the estimated cost of operation and maintenance of the Geysers Recharge Alternative cannot be compared with other alternatives without applying the anticipated value of the electric power production associated with the Geyser’s operation. The comment asserts that even though power production would far exceed the O&M cost, it has not been considered in the Draft EIR/EIS.*

On page 4.17-12 of the Draft EIR/EIS, it is stated that for the Geysers alternative, “. . . the energy production results in a net gain of 265,000,000 kwh per year, a 3.6 to 1 ratio of electricity produced to electricity used.” However, the anticipated value of the electric power production cannot be used to offset the estimated O&M costs for the Project. The O&M costs are the responsibility of the City of Santa Rosa, while the electric power production associated with the operation of the Geysers alternative is the operators’ benefit, not a benefit to the City. Therefore, the estimated O&M costs for the Geysers alternative can be compared with those of the other Project alternatives.

### **Response to Comment 125-12**

*Comment Summary: The comment claims that the geysers project can generate potable water.*

Direct potable reuse of reclaimed water is not allowed by the Department of Health Services. No evidence has been provided that the proposal put forth by the Geysers Alternative Energy Development Corporation could produce potable water. Please refer

to the memorandum at the end of Appendix D-6 (Documentation in Support of the Elimination of Alternatives) which evaluates the proposal put forth by Stewart & Associates.

### **Response to Comment 125-13**

*Comment Summary: The comment states that the Draft EIR/EIS ignores the potential reduction in service charges and demand fees to the local ratepayers, the preservation of jobs, and the economic benefit to unlimited growth and development within the region when it states that the Geysers Recharge Alternative provides little economic benefit.*

In Tables 4.18-8 and 4.18-9 on page 4.18-21 of the Draft EIR/EIS, the potential for increase in service charges and demand fees are examined as an evaluation criterion for socio-economics. Pages 4.18-22 and 4.18-23 of the Draft EIR/EIS present the methodology for estimating the service charges and demand fees needed to finance each Project alternative. On page 4.18-32 of the Draft EIR/EIS, it was determined that there will be a significant impact to the service charge for wastewater for Alternative 4 (Geysers alternative). On pages 4.18-36 through 4.18-38 of the Draft EIR/EIS, the anticipated changes in demand fees for wastewater and how they affect land values is examined.

In Table 4.18-18 on page 4.18-50 of the Draft EIR/EIS, the net economic impacts in terms of total income, direct employment, and total employment, are shown for all of the alternatives. Alternative 4 (Geysers alternative) shows a negative net direct employment impact. The purpose of the Draft EIR/EIS is to indicate changes in employment, not to assure that jobs are preserved.

Finally, all of the Project alternatives, except the No Action (No Project) alternative, provide the potential for growth and development within the stated goals of each of the Subregional member entities' General Plans. The purpose and need of the Project is to dispose of 21 million gallons per day of reclaimed water, not an unlimited supply.

### **Response to Comment 125-14**

*Comment Summary: The comment states that the Geysers Recharge Alternative has capital funding potential from state, federal, and city governments as well as industry, which is not similarly available to any of the other alternatives.*

Refer to Response to Comment 11-3.

### **Response to Comment 125-15**

*Comment Summary: The comment states that it is unrealistic for the Draft EIR/EIS to classify the Geysers Recharge Alternative with a 20-year life with capital costs amortized over the 20 years. The comment asserts that operation of this alternative could continue indefinitely.*

The comment is confusing the reclaimed water delivery system with the actual Geysers steamfield area. The delivery system described for Alternative 4 has a 20-year life, and its capital costs have been amortized over these 20 years. The viability of the steamfield will probably continue long after the 20-year life of the delivery system, but that is not the issue addressed by the Draft EIR/EIS.

#### **Response to Comment 125-16**

*Comment Summary: The comment states that the Geysers Recharge Alternative will regenerate the steamfield and generate net electrical power, which is a “gainful” impact, not simply a method to dispose of reclaimed water.*

The Draft EIR/EIS, in Section 4.17, has identified the fact that the Geysers Recharge alternative will generate power.

#### **Response to Comment 125-17**

*Comment Summary: The comment states that the Geysers Recharge Alternative will indirectly mitigate an existing adverse impact by the augmentation of power generation and elimination of fossil fueled power generation elsewhere.*

The Draft EIR/EIS addresses those potential significant impacts for which the various Project components may be responsible. The Project does not take credit for mitigating the effects of other projects, such as fossil fueled power generation.

#### **Response to Comment 125-18**

*Comment Summary: The comment suggests that a “royalty” could be imposed upon the steamfield users/operators to off-set the O&M cost and initial capital cost of construction, thereby avoiding a significant increase in service charges and demand fees to the ratepayers and providing feasible mitigation. The Geysers Recharge Alternative could be the least expensive alternative.*

Refer to Response to Comment 11-3.

#### **Response to Comment 125-19**

*Comment Summary: The comment states that the Geysers Recharge Alternative has no cumulative adverse impacts on the economy.*

This comment is incorrect. Page 4.18-53 of the Draft EIR/EIS, indicates that there will be significant cumulative impacts for Alternatives 2, 3, and 4 due to the effect of increased Project service charges combined with other potential service charge increases.

## **Response to Comment 125-20**

*Comment Summary: The comment refers to Lake County's wastewater disposal problem and states that the City of Santa Rosa's treated wastewater is cleaner than that wastewater transported from Lake County to the Geysers and would therefore be less of an impact and environmentally superior.*

Refer to Response to Comment 103-18, concerning the determination of an environmentally superior alternative. This analysis compares various alternatives for the Santa Rosa Subregional Long-Term Wastewater Project. It is beyond the scope of the Draft EIR/EIS to compare Long-Term Project alternatives with other wastewater projects to determine which is environmentally superior.

## **Response to Comment 125-21**

*Comment Summary: The comment states that with the implementation of the return of the injected wastewater from the steamfield as purified or distilled potable/drinking water, the capacity of the steamfield to handle the City of Santa Rosa's reclaimed water becomes unlimited and could be done with no additional adverse environmental impact.*

The production of purified or distilled potable water from the Geysers steamfield is untested and unproved. In addition, the purpose of the Project is to dispose of 21 million gallons per day of reclaimed water, not an unspecified or unlimited amount. Neither the potential for the production of potable water or for unlimited capacity to dispose of reclaimed water is part of the statement of need for the Project as contained in the Project description in the Draft EIR/EIS. Therefore, neither issue has relevance to the defined Project.

## **Response to Comment 125-22**

*Comment Summary: The comment asserts that the Geysers Recharge Alternative is the most feasible, practical, and inexpensive as well as having less impact on properties and the environment and is beneficial compared to the other alternatives.*

Many issues presented in the comment have been addressed by other responses. Refer to the Responses to Comments 125-11, 125-13, 125-16, 125-17, and 125-21. In addition, the Project has been designed to accommodate the planned growth presented in the General Plans, not to provide growth inducement for housing and jobs. Contrary to the statements within the comment, all the alternatives will provide reliable year-long disposal of reclaimed water through all the seasons. All the alternatives, including the Geysers alternative, will be subject to potential interruption because of the delivery systems, and it has not been proven that the Geysers alternative and its delivery system will perform for an unlimited duration.