

**COMMENT LETTER 87 - SIERRA CLUB, SONOMA GROUP, DAVID BANNISTER
(OCTOBER 5, 1996), RECEIVED OCTOBER 7, 1996**

Response to Comment 87-1

Comment Summary: The comment provides a discussion of how public comments on a Draft EIR/EIS should be made and a list of typical significant impacts. The comment also states that a lead agency must identify incomplete or unavailable information when evaluating reasonably foreseeable significant adverse impacts on the human environment.

This comment does not provide specific information that requires a reevaluation of the impact analyses provided in the Draft EIR/EIS. Specific concerns were expressed in subsequent comments and these comments are addressed specifically in the Responses to Comments below.

Response to Comment 87-2

Comment Summary: The comment states that maximum conservation was not studied as a component.

Refer to Master Response 17, located in Section 6.2 of this document, for a discussion of water conservation.

Response to Comment 87-3

Comment Summary: The comment references Table 9 on page 15 and supporting text in Appendix D-3 (Water Conservation Element) of the Draft EIR/EIS and states that the finding in this reference disagrees with a reference in Section 3.1 of the Draft EIR/EIS (paragraph 4, page 3.1-21) concerning the projected 1997 wastewater flows, and questions whether the decision not to include Maximum Conservation as part of the project was therefore based on a faulty report.

As described on page 1 in Appendix D-3 (Water Conservation Element) of the Draft EIR/EIS, this appendix is intended to evaluate the potential additional reductions in wastewater flows from more aggressive water conservation measures in relation to the wastewater flow projections for the year 2010, which included continuation of existing conservation practices. These projections are contained in Appendix D-4 (Wastewater Flow Projections). Also, the Introduction to the Draft EIR/EIS states that these wastewater flows are calculated as average dry weather flows (ADWF). Thus, the Table and paragraph from Appendix D-3 cited in the comment refer to a reduction in wastewater flow from 20.90 million gallons per day (mgd) which is the projected 2010 ADWF with continuation of existing conservation measures, to 19.44 mgd ADWF in 2010 with more aggressive conservation measures. This reduction represents a reduction of approximately 7 percent in wastewater flow.

Paragraph 4 on page 3.1-21 of the Draft EIR/EIS states that the figure of 16.2 mgd is the projected 1997 ADWF, while the 20 mgd figure is identified as the wastewater generation rate, that is equivalent to a 16.2 mgd ADWF. The wastewater generation rate is not the same as ADWF. Therefore the comparison of the 16.2 and 20 mgd figures for 1997 flows is incorrect. As indicated on page 3.1-21 of the Draft EIR/EIS, the reduction in 1997 wastewater flow due to continuation of existing conservation is 0.8 million gallons, or a 4.7 percent reduction from the 1994 flows. Because these numbers are based upon continuation of existing conservation practices for 1997 flows, while the numbers in Appendix D-3 are based upon implementation of more aggressive conservation practices at buildout (in approximately 2010), no comparison can be made between the two sets of numbers.

Appendix D-3 of the Draft EIR/EIS is not faulty, as alleged in the comment. The reasons for the elimination of maximum conservation from further consideration in the Draft EIR/EIS are described in Section 3.1 (page 3.1-31) and in Appendix D-6 (Documentation in Support of the Elimination of Alternatives) of the Draft EIR/EIS. Also refer to Master Response 17, located in Section 6.2 of this document, regarding water conservation.

Response to Comments 87-4 and 87-5

Comment Summary: The comment asks, if current conservation measures have achieved a 19 percent reduction in wastewater flow, how much more could be achieved with more aggressive conservation measures, and if significant flow reduction could be achieved through these measures, how would other alternatives change.

As demonstrated in Response to Comment 87-3, the 19 percent reduction in wastewater flow stated by the comment is incorrect and based upon an incorrect comparison of average dry weather wastewater flow (ADWF) and wastewater generation, the latter including wet weather as well as dry weather flows. Appendix D-3 (Water Conservation Element) of the Draft EIR/EIS extensively addresses the potential savings from more aggressive wastewater conservation measures, and concludes that the reduction in 2010 ADWF resulting from mandatory implementation of such measures is 1.46 million gallons per day (mgd), or a reduction of approximately 7 percent from projected 2010 ADWF with continuation of existing conservation measures. Because a significant reduction in wastewater flows has not been demonstrated, the question of how other alternatives would change is moot.

Response to Comment 87-6

Comment Summary: The comment asks that evidence be provided concerning a statement in Section 3.1 (page 3.1-32) of the Draft EIR/EIS that behavioral modifications required to achieve maximum conservation are considered unreliable.

The level of “reliability” required for the Project is addressed on page 1 in Appendix D-3 (Water Conservation Element) of the Draft EIR/EIS, which states that conservation measures were selected because they generate quantifiable and sustainable wastewater

flow reduction. This is consistent with the Project statement of purpose and need which requires reliable disposal of the quantified volume of 21 million gallons per day (mgd) average dry weather flow (ADWF). This level of reliability is further defined as involving sizing or physical operation of facilities where a specific and sustainable reduction in flow can be determined. Such reductions resulting from conservation devices are not subject to change over time as are measures that depend upon behavior modification, because the physical properties of the conservation devices will remain constant while population and socio-cultural conditions may change. Thus, even studies which may show reduction in water use through behavior modification are not useful in establishing the level of assured reliability that is necessary for the Project, because potential increases in wastewater flow resulting from a decrease in conservation due to changes in behavior will not be able to be accommodated by the system. As described in Section 3.1 (page 3.1-5) of the Draft EIR/EIS, the Project includes continuation of the existing conservation practices, including such sustainable and quantifiable measures as requiring low flow toilets and showerheads, and thereby will reduce the projected ADWF in 2010 from 26mgd to 21mgd.

Response to Comment 87-7

Comment Summary: The comment request recalculation of conservation with inclusion of a program to reduce inflow and infiltration.

The conservation program is based on reduction of average dry weather flows, and by definition, infiltration and inflow (I/I) only occurs during wet weather. Although the City has a program to reduce I/I, it does not affect storage requirements or discharge limitations. During wet weather when I/I is significant, flows in the Russian River are ample to provide opportunities for discharge. It is thus not appropriate to consider I/I reduction as a conservation measure.

Response to Comment 87-8

Comment Summary: The comment requests consideration of a phased approach.

Refer to Master Response 14, located in Section 6.2 of this document, concerning a phased Project.

Response to Comment 87-9

Comment Summary: The comment asserts that in the cost analysis of the various alternatives, there is absolutely no analysis of the time value of money, and asks that the present value of the alternatives be analyzed.

The comment is incorrect in its assertion. Appendix D-30 (Alternative Projects Construction Cost Estimate) of the Draft EIR/EIS, which presents the Project alternative costs clearly states on page 1-1 that the cost estimate includes both construction costs and annual operations and maintenance costs projected to a present worth value based on

annual cost of borrowed money at 6.5 percent interest over a period of 20 years. Thus the cost estimates in Appendix D-30, as well as the costs presented in Section 3.4 of the Draft EIR/EIS, which are summarized from Appendix D-30, are stated in present value.

Response to Comment 87-10

Comment Summary: The comment asks if winter irrigation has been explored.

Winter irrigation is a component of the Project's Contingency Plan, which is described on pages 3.3-42 and 3.3-43 of the Draft EIR/EIS. Winter irrigation of pasture will be possible during dry winters.

Response to Comment 87-11

Comment Summary: The comment requests that the EIR/EIS provide more information on how mitigation ratios were derived.

These mitigation ratios were developed based upon conversations with resource agencies in conjunction with best professional judgment and are typical of mitigation ratios implemented for other projects. These ratios are still subject to change at the discretion of the U.S. Army Corps of Engineers during the Section 404 permit process. Refer to page 2-78 of the Draft EIR/EIS.

Response to Comment 87-12

Comment Summary: In reference to Table 4.18-18 of the Draft EIR/EIS, the comment states that the information in the table appears to be as compared to General Plan and ABAG growth projections. The comment further states that either the data in the table should be compared to existing conditions, or that the large negative impact of the No Project Alternative should be explained.

The comment is not entirely correct in its assumption that the data in Table 4.18-18 of the Draft EIR/EIS is in comparison to General Plan or ABAG projections. As stated in Section 4.18 of the Draft EIR/EIS (page 4.18-28), the analysis of impacts on the local economy (which are presented in Table 4.18-18) was conducted using an Input-Output model. The inputs to this model, as described in Section 4.18 (page 4.18-29) of the Draft EIR/EIS are the increase in agricultural production value; the construction, operating and maintenance costs for the Project; and the reduction in personal expenditures as a result of the increase in service charges. None of these inputs is derived from either General Plan or ABAG projections. The large negative impact for the No Action (No Project) Alternative is the result of the loss of projected households and employment after December 1997 that might otherwise be expected in the area. This portion of the input-output analysis is more fully explained in Section 4.18 of the Draft EIR/EIS (page 4.18-30).

Response to Comment 87-13

Comment Summary: The comment reiterates the following statement provided on page 5-12 of the Draft EIR/EIS “The lack of adequate infrastructure is a constraint to economic development. In the Santa Rosa/Sonoma County area, the lack of adequate wastewater disposal will preclude development.”

The comment correctly quotes from page 5-12 of the Draft EIR/EIS. Specific concerns were expressed in subsequent comments and these comments are addressed specifically in the Responses to Comments below.

Response to Comment 87-14

Comment Summary: With respect to a statement in Section 5.3 of the Draft EIR/EIS that the lack of wastewater disposal in Santa Rosa/Sonoma County will preclude future development, the comment states that much more analysis of the socio-economic and environmental impacts of this finding needs to be supplied in the No Project Alternative, asking particularly what would the impacts be on housing costs in the area and other nearby areas if development were frozen.

Section 5.3 of the Draft EIR/EIS addresses the specific question of growth inducement of the Project alternatives. Section 4.18 of the Draft EIR/EIS includes an analysis of the socio-economic effects of the No Action (No Project) Alternative. The summary of these effects on page 4.18-52 of the Draft EIR/EIS indicates that without new housing development prices of existing homes could be bid upward, which could squeeze out lower income and perhaps even moderate income households.

Response to Comment 87-15

Comment Summary: The comment asks the question “what would be the impacts on traffic?”

Direct traffic impacts associated with the No Action (No Project) Alternative are addressed on pages 4.11-22 and 4.1-23 of the Draft EIR/EIS. If development were to stop, regional increases in traffic would also likely stop; this would not be considered an adverse impact.

Response to Comment 87-16

Comment Summary: With respect to a statement in Section 5.3 of the Draft EIR/EIS that the lack of wastewater disposal in Santa Rosa/Sonoma County will preclude future development, the comment asks whether there would be any lessening in the need to build other infrastructure improvements and would there be impacts on the type of jobs available in the area.

Without additional development, infrastructure necessary to serve new growth will not be needed; this would not be considered an adverse impact. Section 4.18 of the Draft

EIR/EIS addresses the impact on employment of the No Action (No Project) Alternative, and in Table 4.18, indicates that this alternative will result in the loss of 27,100 future jobs. The summary of the effects of the No Action (No Project) Alternative on Page 4.18-52 of the Draft EIR/EIS indicates that the lack of new housing could distort the structure of the local labor force, making it difficult for employers to fill entry level and service jobs.

Response to Comment 87-17

Comment Summary: The comment asks the question “what would all of the environmental impacts be?”

Environmental impacts associated with the No Action (No Project) Alternative are addressed in chapters 4 and 5 of the Draft EIR/EIS. Environmental impacts of growth and development in the Project area are addressed in the EIRs for the General Plans of the Subregional System members. These EIRs were also required to evaluate the impacts of a No Project Alternative, and of other alternatives such as alternative growth scenarios.

Response to Comment 87-18

Comment Summary: The comment recommends that a fishery study be performed to determine whether estrogenic effects are observed in current holding ponds or the Laguna.

The EIR/EIS authors do not agree that such a study is appropriate. The study of endocrine disrupters and the expression of certain biomarkers (e.g., production of vitellogenin) in fish is a new area of investigation and there is still much debate in the scientific community about the significance of these biomarkers. No scientific consensus has been reached on the significance of the observed changes, therefore it was deemed inappropriate to perform additional analyses. Refer to Master Response 9, located in Section 6.2 of this document. Also refer to Master Response 5, located in Section 6.2 of this document.

Response to Comment 87-19

Comment Summary: The comment requests that the Draft EIR/EIS address potential impacts and provide appropriate mitigation steps for those alternatives affecting the following plant species (Sonoma alopecurus, Clara Hunt’s milkvetch, white sedge, Vine Hill clarkia, Pitkin Marsh lily, Calistoga allocarya, napa bluegrass, Kenwood Marsh checkermallow, and showy Indian clover) proposed by the federal government as endangered species.

None of the aforementioned plant special-status species were observed during the special-status plant surveys. The Mitigation and Monitoring Program presents measures that will be implemented to ensure that sensitive biological resources (including the aforementioned special-status species) will be avoided (Pages 2-28 through 2-33 of the

Draft EIR/EIS). Should any of these special-status plant species be observed during the pre-construction surveys prescribed for selected Project sites, then the mitigation steps provided for in 60 FR 148 (August 2, 1995) will be implemented (Page 2-79 of the Draft EIR/EIS).

Response to Comment 87-20

Comment Summary: The comment requests consideration of smaller storage options.

Refer to Master Response 14, located in Section 6.2 of this document, concerning small storage reservoirs.

Response to Comment 87-21

Comment Summary: The comment inquires about potential recreational use of reservoirs.

Recreational use is not contemplated. Refer to Response to Comment 56-5.

Response to Comment 87-22

Comment Summary: The comment refers to a list of ranchers who were supposedly interested in using reclaimed water for agricultural irrigation, and asks several questions about the list including how it was compiled, how current is the information and the commitment of those listed to take reclaimed water.

There is no such list in the Draft EIR/EIS (for either the South County or West County alternative), and no copy of a list was included in the comment; therefore the questions concerning the list cannot be answered. For additional discussion of the interest in using reclaimed water for agricultural irrigation, refer to Master Response 6, located in Section 6.2 of this document. Also refer to Response to Comment 64-6.

Response to Comment 87-23

Comment Summary: The comment identifies that the Draft EIR/EIS states that the No Action Alternative does not meet Regional Board Reliability Standards and could result in discharges as high as 10 percent. The comment also states that further analysis of this alternative with modifications including increased conservation, urban irrigation, and agricultural irrigation is required.

By definition, the No Action (No Project) Alternative assumes implementation of no Project components or actions, other than those already in progress or approved. The No Action (No Project) Alternative assumes that certain approved modifications to the existing Santa Rosa Water Reclamation System will occur. These upgrades and projects are identified on page 3.1-21 of the Draft EIR/EIS, and several of these projects have been completed during the preparation of this Draft EIR/EIS. Any other actions, would,

by definition, not be a No Action (No Project) Alternative. The Project alternatives include conservation, urban irrigation and agricultural irrigation.

Response to Comment 87-24

Comment Summary: The comment states that the Draft EIR/EIS should have evaluated the viability of existing power plants at the geysers to continue producing electricity.

The Draft EIR/EIS has evaluated impacts of Geysers recharge, but it is beyond the scope of this environmental document to critique the viability of existing operations at the geysers. The City of Santa Rosa may wish to explore such issues with the Geysers operators at the time of Project selection, or if a Geysers option is selected, during negotiation of a contract for delivery of reclaimed water.

Response to Comment 87-25

Comment Summary: The comment states that the induced seismicity study is incorrect because: 1) quantity of injection is not correlated between total area injection wells and increase in volume of wastewater injected over the life of the project; and 2) there is no analysis of correlation between injection volume at a given rate and the increased size and amount of quakes.

Investigations by numerous researchers at the Geysers have shown that microearthquake response correlates with localized fluid injection rates, not total injection volumes over large areas and long time periods. In fact, it has been shown that certain wells and portions of the geothermal field are less prone to seismicity than others.

Appendix F-2 (Induced Seismicity Study-Geysers Recharge Alternative) of the Draft EIR/EIS presents correlations between monthly injection rates and numbers of earthquakes of all magnitudes. Characteristic earthquake magnitude and frequency relationships were determined which demonstrate the relative frequency of the various earthquake magnitudes. This kind of correlation is possible only for areas and time frames where detailed information on both earthquake locations and water injection rates coincide. In addition, steam production wells in the study area needed to be clearly separate from water injection wells so that induced seismicity from the two types of wells would not be superimposed. Three study areas, in which the above requirements were fulfilled, were identified and analyzed in Appendix F-2.

Response to Comment 87-26

Comment Summary: The comment asks that the Draft EIR/EIS be updated to include new information on the results of Mock Spill Cleanup exercise conducted in Big Sulphur Creek by geothermal operators and regulatory agencies.

The impact of reclaimed water spills on the aquatic environment is evaluated on pages 4.4-22, 4.6-76 and 4.9-49 of the Draft EIR/EIS. No significant spill impacts were

identified, so no mitigation (such as spill cleanup) is identified. Therefore, the requested information is not being added to the Draft EIR/EIS.

Response to Comment 87-27

Comment Summary: The comment asks if injection sites are located in the area of highest decline, and whether this would be the area with the worst potential for restoration.

Injection sites were identified by the Geysers operators, who state that the highest field decline was not the design factor for location. Final injection well selection and rate will be based on all available data at the time of Project construction. In general, injection will be based on maximizing recovery of the injectate. Areas of high decline will be considered, along with Project economics and current technical information on geologic and reservoir factors. The basis for selection of existing wells for conversion to injection wells is to improve heat energy recovery from the steamfield and complement existing injection systems (personal communication, Doug Hackley, Unocal, 17 March 1997).

Response to Comment 87-28

Comment Summary: The comment asks for mathematical calculations of project steam production increase. The information is requested as back-up for the statement that air quality impacts from radon and hydrogen sulfide would not exceed existing or past impacts. The comment further states that this is important because the geysers is "probably the largest source of atmospheric sulfur in California (Suter, 1978) and sulfur dioxide has been shown to be a phytotoxicant."

Estimates of steam production were provided by the Geysers operators, and energy production estimates from increased steam are presented on page 4.17-12 of the Draft EIR/EIS. According to the Geysers operators, the calculation of projected production requires careful study of the Geysers steamfield with complex reservoir analysis. Recent steam production values are about 45 percent of levels in 1987. Increasing production to the 1987 level is deemed by the Geysers operators to be physically impossible for the quantity of reclaimed water proposed for injection as part of the Project. Injection will help to mitigate production decline.

The Geysers operators also express disagreement with the characterization of the Geysers sulfur emissions. Stringent standards for geothermal power adopted since the 1978 date of the referenced study have significantly reduced emissions. Geothermal power plants have about 10 percent the sulfur emissions of a comparable gas-fired power plant. A Geysers Air Monitoring Program was started in 1983, and monitors ambient air quality and reports the data to the Lake County Air Quality Management District and the Northern Sonoma County Air Pollution Control District (personal communication, Doug Hackley, Unocal, 17 March 1997). As noted in the Draft EIR/EIS, the Air District does not consider existing or potential future emissions at the Geysers to be significant as they

do not violate permitting or monitoring requirements (refer to page 4.12-32 of the Draft EIR/EIS).

Response to Comment 87-29

Comment Summary: The comment asks if the Board of Public Utilities will take legal and oversight responsibility for all aspects of the project and if the project falls within the scope of a state or federal agency for monitoring of mitigation steps.

The City of Santa Rosa is the managing partner of the Santa Rosa Subregional Wastewater Reclamation System and will undertake the Project, including all components of Alternative 4 necessary for delivery of reclaimed water to the geysers, if Alternative 4 is selected. As such, the City will be responsible for implementation of the mitigation and monitoring program described in Chapter 2 of the Draft EIR/EIS. The City is identified in Chapter 2 as the primary monitoring agency for all mitigation measures. Other agencies such as the Regional Water Quality Control Board and U.S. Army Corps of Engineers are also identified where the specific mitigation is subject to their approval. Typically, the City will submit monitoring reports to the state or federal agency in such instances. Table 2.0-3, which starts on page 2-8 provides a summary of monitoring agencies.

The City is required to obtain permits for Alternative 4 actions as outlined in Appendix D-5, the Permitting Report, of the Draft EIR/EIS. The following federal and state agencies may have direct permit authority (“jurisdiction by law”):

- U.S. Army Corps of Engineers
- Advisory Council on Historic Preservation/State Office of Historic Preservation
- U.S. Fish and Wildlife Service/National Marine Fisheries Services
- U.S. Bureau of Land Management
- U.S. Environmental Protection Agency
- California Department of Transportation
- State Lands Commission
- State Water Resources Control Board
- California Occupational Safety & Health Administration
- State Department of Fish and Game
- North Coast Regional Water Quality Control Board

The Bureau of Land Management enforces the provisions of the Federal Geothermal Steam Act of 1974 through its permits and leases.

The California Energy Commission implements the Warren-Alquist Act through its powerplant and site certification program. Powerplant facilities and geothermal wells on State lands are further subject to lease controls by the State Lands Commission.

Both state and federal agencies will be involved in monitoring. Refer to pages 2-16 and 2-17 of the Draft EIR/EIS.

Response to Comment 87-30

Comment Summary: The comment states that analysis in the Draft EIR/EIS did not consider the activation of landslides from induced seismicity and spills at the Geysers.

As noted in the analysis of induced seismicity starting on page 4.3-85 of the Draft EIR/EIS, “the Project will not affect the maximum magnitude of earthquakes that occur in the region”, but will only increase the frequency of microearthquakes (magnitude 0.7 to 3.0 on the Richter scale), which already occur in the Project area. These magnitudes of earthquakes are below levels expected to trigger landslides, or result in pipeline breaks. Therefore, the increased risk of landslides due to induced seismicity will be negligible.

Response to Comment 87-31

Comment Summary: The comment suggests that construction activity would trigger landslides and that the potential for these events should be analyzed in the EIR/EIS.

Construction will proceed according to geotechnical engineering specifications and oversight and therefore should not trigger landslides either by increased surcharge loads upon the soil, induced erosion, blasting, or drilling.

Response to Comment 87-32

Comment Summary: The comment asks if the project participants will maintain financial assurance agreements or bonds available for cleanup for activities associated with the Project.

Refer to Response to Comment 87-43.

Response to Comment 87-33

Comment Summary: The comment asks for cost and implementation of plans to remove project facilities if the project fails.

Substantial engineering studies have been completed to insure that Alternative 4, as well as the other alternatives, is feasible, and there is no reason to plan for failure. Neither CEQA nor NEPA requires an environmental document to evaluate procedures for dismantling a project. The Project components at the Geysers will be maintained or replaced as necessary to allow operation into the future, indefinitely.

Response to Comment 87-34

Comment Summary: The comment suggests that the Geysers Steamfield Component will result in the induction of seismic tremors and asks what compensation will be provided to area residents that suffer a decline in real estate value or an inability to maintain a safe environment as a result of these induced tremors.

The analysis of impacts associated with induced seismicity is provided on pages 4.3-85 through 4.3-88 of the Draft EIR/EIS. This analysis indicates that the Project will not affect the maximum magnitude of the earthquakes in the region. In addition, the strongest potential induced earthquake effects in the affected communities are considered to be intensity V to VI on the Modified Mercalli scale, and less frequent or intense than the effects of natural regional earthquakes. (The Modified Mercalli scale is an index of felt effects at specific localities and cannot be directly correlated with the Richter Scale commonly reported in the newspapers, which measures earthquake magnitude. For example, a large magnitude earthquake may have a small felt effect if it occurs at a great distance from the location at which the felt effects are measured.) Earthquakes of this intensity are not considered to be life threatening. Therefore, the issue of a safe environment is not an area of concern. Earthquakes of intensity V and VI can, however, result in non-structural damage. The Draft EIR/EIS identifies that the frequency of these intensity V and VI earthquakes may increase and therefore result in increased incidents of non-structural damage. Although these incidents may result in increased costs for repair or replacement of damaged items, they are not expected to result in changes in property values. In addition, the mitigation to reduce the impacts of felt seismic events associated with the Geysers Steamfield Component includes monitoring the intensity of these events in the surrounding communities, and the injection well locations that appear to elicit the event, and redistribution of injected water to wells that have less effect on felt seismic activity. Implementation of this mitigation will result in a reduction in the frequency of felt earthquakes to a level that approaches the currently existing frequency of these events.

Response to Comment 87-35

Comment Summary: The comment says that the analysis of the “pipe breakage flow pattern for full length of pipeline” issue is inadequate.

Geotechnical analysis has determined that all segments along the full length of the pipeline are not equally subject to rupture. Although small pipeline leaks are possible anywhere, a major rupture is only deemed to be likely at the points where a pipeline crosses faults. Refer to page 4.3-64 of the Draft EIR/EIS. For the geysers pipeline there are two potential points of concern: the crossings of the Maacama and Healdsburg-Rodgers Creek faults. Refer also to Responses to Comments 87-36 through 87-38.

Response to Comment 87-36

Comment Summary: The comment states “example disruption of traffic at Highway 101.”

If the pipeline ruptured at the Maacama or Healdsburg-Rodgers Creek fault, reclaimed water will flow into nearby surface water bodies. Water will be conveyed within the existing channels, and is not expected to affect Highway 101.

Response to Comment 87-37

Comment Summary: The comment asks for the runoff pattern, speed of runoff, sediment stream impacts in the event of a pipeline and storage tank rupture along the section of Geysers pipeline on the “climb up to water tanks.”

Refer to Response to Comment 87-35. Particular emergency events that were considered to represent the most-likely unplanned pipeline rupture events were identified by the Draft EIR/EIS authors. The pipeline rupture scenario is described on page 3.3-6 of the Draft EIR/EIS. The evaluation of pipeline rupture impacts is provided on pages 4.4-22, 4.6-76 and 4.9-49 of the Draft EIR/EIS, and no significant impacts were identified. The maximum volume of water spilled due to a Geysers pipeline rupture is 1.7 million gallons (refer to page 3.3-6 of the Draft EIR/EIS).

Response to Comment 87-38

Comment Summary: The comment asks that the location of drilling waste sumps, cinnabar and mercury mines and tailing sites, and serpentine/asbestos soils be included in the analysis of pipeline rupture impacts.

As described in the Response to Comment 87-37, the Geysers pipeline failure scenario that was considered by the EIR/EIS authors to be most likely to occur, and therefore analyzed for impacts, was a rupture at the Maacama fault. The pipeline crosses the Maacama Fault at the base of Pine Flat Road near Jimtown. The maximum volume of water spilled due to a Geysers pipeline rupture at the Maacama fault is 1.7 million gallons (see page 3.3-6 of the Draft EIR/EIS). The impact of pipeline ruptures occurring between the Maacama Fault and the Geysers steamfields was not evaluated. Prior to establishing the rupture scenario for evaluation, the location of features such as drilling waste sumps, cinnabar and mercury mines and tailing sites, and serpentine/asbestos soils was identified by the EIR/EIS authors for purposes of an impacts analysis. The EIR/EIS authors determined that local topography will not route any reclaimed water to any of the mapped features and, therefore, no contaminated soil at these features will be transported as a result of a pipeline rupture.

Response to Comment 87-39

Comment Summary: The comment asks how reclaimed water and injection derived steam are monitored to detect viral and bacterial contamination.

Reclaimed water must meet Title-22 requirements, which are described on page 4.7-7 of the Draft EIR/EIS. Under Title-22 requirements, coliform sampling is used as an indicator of pathogen removal, and coliform levels of reclaimed water are determined daily. Regular monitoring of viruses is not required by Title-22. Neither viruses nor bacteria survive in steam, so sampling of steam is not proposed.

Response to Comment 87-40

Comment Summary: The comment says that “fish in The Geysers” show high levels of metals and that Big Sulphur Creek is “a EPA designated depleted waterway.” The comment goes on to ask for “the restrictions due to that designation on the potential impacts from spills, slides, etc.”

The Draft EIR/EIS authors do not know of the term “depleted waterway” in the context of any EPA authority. Notwithstanding any such EPA designations, the Project does not involve any planned discharge to Big Sulphur Creek and will be subject to a no-discharge restriction. The impact of spills on water quality is evaluated on page 4.6-76 of the Draft EIR/EIS. Refer to Response to Comment 87-37.

Response to Comment 87-41

Comment Summary: The comment states that the analysis did not assess the truck impacts on Pine Flat Road for Dewitt 97 acre Pine Flat Quarry site.

The Pine Flat Road quarry site referenced in the comment is the subject of a current application to Sonoma County. It is included in the updated cumulative projects listed in Section 6.5 of the Final EIR, and has been considered in the analysis of cumulative impacts related to these projects. The Draft EIR/EIS concluded that cumulative impacts to Pine Flat Road were significant, both as a result of pipeline construction, and as a result of construction of the geysers steamfield facilities. The additional traffic from the proposed quarry does not change that determination. Refer also to Response to Comment 15-64.

Response to Comment 87-42

Comment Summary: The comment asks how does the passing of a recent state bill to deregulate the electric utility industry impact the fiscal viability of the Geysers alternative.

Fiscal viability of the Geysers alternative could improve. It is expected that deregulation of the electric utility industry will allow the City to negotiate for reduced power rates for the Geysers pumping needs. These rates have not been established and no negotiations will take place prior to selection of a Long-Term Wastewater Project. Therefore, the rates used in the cost estimates in the Draft EIR/EIS are the best estimates which can be reliably used at this time.

Response to Comment 87-43

Comment Summary: The comment states that the Project participants will be required to post an abandonment notification in advance before relinquishing the responsibility for the disposal of treated effluent.

The Bureau of Land Management and The State Lands Commission require notice of abandonment, removal and facilities financial assurances, and revegetation for their leases in the Geysers area. Conversion of an existing well to an injection well will not change these requirements.

New pipeline built over state or federal lands will require a new lease to be obtained. The new lease will require compliance with these same policies. These requirements are listed in Section 2.1 of the Draft EIR/EIS. (Personal communications, Rich Estabrook, Bureau of Land Management, and Greg Scott, State Lands Commission, January 1997).

The City of Santa Rosa will continue to be responsible for disposal of its reclaimed water in the event that Geysers recharge is discontinued, but will not assume responsibility for the Geysers facilities themselves.

Response to Comment 87-44

Comment Summary: The comment states that all project participants will be responsible for the removal of all project facilities when abandonment occurs and all surfaces will be revegetated with native plants and maintained for some years afterwards.

Refer to Response to Comment 87-43

Response to Comment 87-45

Comment Summary: The comment requests an evaluation of the potential impact of changes in tax laws which might result in changes to the depletion allowance for geothermal resources.

The change in tax laws described by the comment is speculative and unlikely. Therefore, it is not required that the financial impact of such a change on the Project be evaluated in the Draft EIR/EIS. The Draft EIR/EIS has evaluated impacts of Geysers recharge, but it is beyond the scope of the environmental document to critique the financial viability of existing operations at the Geysers.

