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Inyo County Water Commission
P. O. Box 337
135 South Jackson Street
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Attention: Water Commissioners

Re: Coso Project (CUP 2007-03)

Honorable Water Commissioners:

This letter will summarize the views of Little Lake Ranch ("LLR") on the Water Pumping and Transfer Project, CUP 2007-03, ("Project") proposed by Coso Operating Company ("Coso"), as described in the Final Environmental Impact Report ("FEIR"). I am sending a separate letter regarding FEIR, while this letter addresses our specific objections to the Project itself. Please recall that we have only had 4 business days in which to respond, so this letter cannot possibly present all of our views.

LLR does not in any way oppose or object to the geothermal generation of electricity by Coso. There is no question that the geothermal plant provides a relatively clean and reliable energy source. Coso is a significant employer and provides substantial tax and royalty revenues to the County of Inyo ("County"), Bureau of Land Management ("BLM"), and the United States Navy ("Navy"). LLR recognizes all of the benefits flowing from Coso's operations, and is certain that Coso will continue to prosper, even without the Project.

LLR opposes the transfer of 4,839 acre-feet per year (AFY) of water from the Rose Valley Basin for 30 years. The mitigation plan is not adequate to protect the water resources of Rose Valley. The Project is not needed for Coso's survival, and the environmental harm caused by the Project cannot be mitigated.

The cornerstone of the FEIR is the Numerical Groundwater Flow Modeling prepared by Geologica ("Hydrology Model") for the Rose Valley Basin. We believe the Hydrology Model is

fundamentally flawed, overstates the amount of available water to sustain the Project without environmental impacts, and must be materially changed and reissued for public comment.

LLR's hydrogeologist consultant, Andy Zdon, provided a detailed report on the shortcomings of the Hydrology Model which are in the planning files for the Project. Many of Mr. Zdon's comments were independently affirmed by the Los Angeles Department of Water and Power ("LADWP") in its comment letter. Mr. Zdon will provide additional comments to the Water Commission, and his reports should be carefully considered. He concludes that the Hydrology Model is not reliable and must be redone. Among his most telling criticisms of the Hydrology Model are:

- The thickness of the aquifer was arbitrarily increased beyond reasonable estimates.
- The recharge of the aquifer was arbitrarily increased beyond reasonable estimates.
- The Hydrology Model was calibrated on a 3% specific yield estimate, but the ultimate impacts from the Project were based upon an uncalibrated model which arbitrarily increased specific yields up to 10%, 20% and 30%.
- The monitoring plan and triggers are not adequate to prevent environmental harm.

Even using the flawed Hydrology Model, the Project and proposed hydrology monitoring and mitigation plan ("HMMP") is likewise inadequate to protect the Rose Valley and prevent environmental harm for the following reasons:

- The Rose Valley Basin is in a state of equilibrium, such that any pumping and/or transfer of water will overdraft the aquifer (i.e. permanently deplete the aquifer).
- If Coso pumps at the proposed 4,800 AFY rate, Coso would have to completely stop pumping after 1.2 years (less than 15 months).
- Under the most optimistic assumptions, Coso can only pump 480 AFY of water, or as little as 180 AFY, for 30 years without causing a loss to Little Lake of over 10% of water inflow.
- Even with mitigation, Little Lake will lose 10% of its water inflows, and the other Rose Valley residents and businesses will also suffer water losses.
- Even after all pumping stops, the impacts to Little Lake and Rose Valley will continue to get worse, and the aquifer will not recover the 10% water loss for more than 100 years, if ever.
- The Hydrology Model uses annual average conditions without considering the cumulative effects from pumping over a course of several drier than normal years.
- The triggers at which pumping is reduced or curtailed are not set at levels which address both the problems of pumping during droughts and the continuing decline in water levels and flows even after pumping stops.

The County has consistently rejected any water project which would cause an overdraft of an existing aquifer. The Project will overdraft the Rose Valley aquifer. The Rose Valley

aquifer should not be forced to suffer any water loss by virtue of the Project, nor should Little Lake be denied 10% of its normal water inflows.

Coso wants the imported water for two basic reasons. First, Coso decided to install water-cooling towers (WCTs), at the cost of enormous losses of water through evaporation, merely for its profit, rather than air-cooled condensers (“ACCs”). Attached is a photograph of Coso’s geothermal plant called Navy 1 showing the loss of water through evaporation. Second, Coso installed more geothermal production wells than could be naturally recharged. Coso chose to exploit the geothermal reservoir beyond reasonable limits of sustainability.

Coso does not need the water. It can reduce the decline of the geothermal reservoir by other means. Coso wants the water as a temporary band-aid to maintain production, as the most inexpensive alternative available. In doing so, Coso will cause severe and unnecessary environmental damage.

If Coso pumped water at the full pumping rate for 30 years, the water level at Little Lake would drop by anywhere from 3’ to 8’, and not fully recover for 150 years, even after all pumping stops. See Figure 3.2-16 attached. The only Project alternatives considered in the FEIR are reducing initial pumping levels at varying rates, or possibly the duration of pumping. Alternative 1 would reduce the pumping rate from 180 AFY to 480 AFY for 30 years, which would still result in the 10% loss of water at Little Lake. See Figure 5.4-1 attached. Alternative 2 would reduce the pumping rate and duration of the Project to 1 of 3 options: 750 AFY for 6 years, 1,500 AFY for 3 years, or 3,000 AFY for 1.75 years. Alternative 2 would still result in the 10% loss of water at Little Lake. See Figure 5.4-2 attached. These alternatives are compared to the Project, with mitigation requiring the cessation of pumping after only 1.2 years, which would still result in the 10% loss of water at Little Lake. See Figure C4-2 attached.

LLR has identified feasible alternatives to the Project. Among them are: (a) the retrofit of Coso's Plant to use ACCs to completely eliminate the loss of water at Coso through evaporation, (b) the reduction of geofluids production, (c) the drilling of new or deeper production wells to tap new sources of geothermal fluids, (d) investment in capital upgrades to the Coso facility or method of operations, (e) the purchase of water from LADWP, (f) the transport of water from nearby aquifers, such as Owens Valley or Indian Wells water basins, or (g) a combination of the alternatives. These alternatives are summarily rejected in the FEIR as not being feasible. Without the Project, one or more of these alternatives will quickly become “feasible” to Coso, and they provide the roadmap by which Coso will remain productive.

Coso’s intentional use of the WCTs is drying out the geothermal reservoir. Coso could convert its facility to use ACCs. The conversion to ACCs would be expensive and would reduce electricity production, but Coso would (a) be able re-inject virtually all of the produced geofluids, (b) indefinitely extend the life of the geothermal plant, possibly in perpetuity, and (c) forever eliminate any need for imported water. Coso would then become sustainable well beyond

its expected lifetime. The benefits of using ACCs for the long-term benefit of Coso were never compared in the FEIR to the short-term benefits of the Project.

Ronald DiPippo, a geothermal engineering expert, submitted a report which concludes that each of the alternatives concerning the design, upgrade and operation of the Coso plant are potentially feasible to eliminate the need of imported water. His report should be carefully read and considered before subjecting the Rose Valley to the proposed water losses.

Coso knows that the Project only provides a temporary fix to bolster production. Sooner rather than later, Coso will have to stop pumping. With this in mind, Coso is already planning major capital improvements to maintain its production. Refer to the Fitch and Moody's ratings reports that Coso's parent intends to spend anywhere from \$60,000,000 to \$100,000,000 in improvements, copies of which are attached to my letter on the FEIR. The Project is probably included in these numbers, but only accounts for perhaps \$7,000,000 (see FEIR, p. 2-75).

Coso is a hugely profitable company. According to the U.S. General Accounting Office in 2004, the U.S. Navy had received about \$249 million in royalties from 1987 through 2003, based on total electricity revenues of \$2.3 billion received by Coso during the same period. In the calendar year 2004, Coso earned approximately \$50,000,000 in net income, according to publicly available financial reports. The Fitch ratings reports provide an insight into the earnings of Coso.

Coso's Project will deprive other commercial enterprises and the future residents of Rose Valley of vital water resources, solely because the Project overdrafts the Rose Valley aquifer by pumping more water than is naturally recharged. LADWP proposes to pump an additional 900 AFY to recover water seepage from Haiwee Reservoir. At least two companies have proposed additional geothermal explorations in the vicinity of Coso, including Deep Rose, both of which will need some water. The FEIR does not address these cumulative impacts because it asserts that the future projects are speculative. Coso's Project will deplete water resources, making future development in Rose Valley impractical, if not impossible. No accommodation has been made to force a reduction in, or curtailment of, the water pumping proposed by Coso to allow for projected growth within Rose Valley.

The efficacy of the HMMP relies upon Coso to conduct the monitoring, notify the County and other landowners in Rose Valley of problems, and then to curtail pumping when requested by the County. Such reliance on the good faith of Coso is misplaced. The HMMP should be performed by the County or an independent water master, but funded by Coso. Once Coso has the CUP in hand for a 30-year pumping project, Coso will likely take all steps, including litigation, to prevent a reduction or curtailment of pumping, regardless of the conditions of the CUP to the contrary.

There has been no "base line" monitoring of current water table conditions in the Rose Valley. Without an adequate base line, the Hydrology Model cannot effectively set the initial

water table levels from which the triggers are measured. No pumping should commence until this pre-project monitoring has occurred for at least 12 months before pumping begins. Since the construction of the Edison substation to supply power will take 12 months to complete according to the FEIR, pre-project water monitoring for 12 months should not pose any additional delays on the Project.

Any and all water table reductions or water supply availability to the Rose Valley or Little Lake must be conclusively presumed to be caused by the pumping. Coso's pumping should be expressly and without question subordinate to the legal rights and needs of all of the overlying owners. Coso must not be given any opportunity to delay the reduction of pumping when triggers are reached to debate the "cause" of the drawdown. Coso should not continue pumping at maximum rates, while the parties are trying to determine the actual cause. If triggers are reached, pumping should stop and Coso should bear the burden of proof that its pumping did not cause the trigger to be exceeded.

The adequacy of the mitigation measures is further flawed, because the Hydrology Model is based upon average annual conditions. In drier years, the pumping from the Project will accelerate or worsen the impacts from the drought cycle. To avoid even a 10% loss at Little Lake, the mitigation measures must assume a worst case scenario of a prolonged drought while pumping occurs. Such a loss of water inflows will materially impact Little Lake, and its surrounding ponds, wetlands, riparian habitat and wildlife. Just as LADWP is not allowed to pump as much water in drier years, so must the rate of pumping by Coso be automatically reduced in times of drought.

The triggers, set forth in the attached Table C4-1, are also misplaced and inadequate. The cessation of pumping at triggers which are set at the maximum allowable water level drop is not adequate. The Hydrology Model predicts that water table levels will continue to decline even after pumping stops. Thus, the triggers have to be set at more stringent levels to take into account the continuation and worsening of water losses following the cessation of pumping.

The County should adopt the "Mitigation Standard" proposed in draft form by the legal counsel for the County during earlier negotiations, which reads:

Mitigation Standard: The County will ensure that the natural environment of the Little Lake area will not be adversely impacted by water extraction and export from the Hay Ranch water wells. This standard will be enforced by ensuring that groundwater levels, flows, and discharge in the vicinity of Little Lake are unaffected by water extraction from the Hay Ranch Wells.

The foregoing mitigation standard, if adopted, would mandate that Little Lake's water inflow must not be impacted by the Coso Project. Little Lake should not be compelled to accept the 10% loss now being suggested.

CONCLUSION

The entire Hydrology Model should be recalibrated and rerun. Once the true results are known, the HMMP has to be redrafted and new trigger points set. However, in our view, this is all a wasted exercise. It is obvious that the impacts reported in the FEIR from the flawed Hydrology Model substantially overstate the amount of water available for pumping, and further underestimate the impacts to Rose Valley and Little Lake from such pumping. No one in Rose Valley should be forced to suffer a loss of water caused by Coso's overdraft of the aquifer. Attached are a few photos of Little Lake and its downstream wetlands that we are trying to save.

The Project should not be approved to provide Coso a limited and temporary source of injection water, when there are other feasible alternatives to allow for sustained and profitable geothermal energy production. Alternatives to the Project are not infeasible, merely because they may cost more than the Project.

LLR urges the Water Commission to (a) reject the Project, and allow Coso to pursue the alternatives mentioned above, or (b) reject the FEIR entirely, unless it is completely redone and republished for further comment. If there is a recommendation of approval, the CUP should only allow water pumping and transportation for (a) 4,800 AFY for 1.2 years, or (b) under the most conservative assumptions of the alternatives, either (i) 180 AFY for 30 years, or (ii) 750 AFY for 6 years, 1,500 AFY for 3 years, or 3,000 AFY for 1.75 years. During the HMMP, Coso could then still petition the County to modify the CUP, but only after the Hydrology Model can be recalibrated using the new data obtained during the pumping that is allowed, and a new public hearing is conducted.

Very truly yours,

ARNOLD, BLEUEL, LAROCHELLE,
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Attachments

cc: Little Lake Ranch, Inc. (via e-mail)
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