

TA03

OFFICE MEMORANDUM

TO : Distribution

DATE: March 7, 1972

FROM : L. P. Reinig

SUBJECT: PRELIMINARY REPORT - CHROMATE PROBLEM

SYMBOL : ENG-353

Transmitted herewith is a preliminary version of Dr. Pomeroy's report in connection with the chromate problem, power plant cooling towers. The report is preliminary only in the sense that it may require editing in some fashion for clarification and minor corrections but Dr. Pomeroy has assured me his opinion is not subject to change. You will note that the distribution is somewhat limited. Please feel free to consult with anyone whom you feel might be of assistance, and I request that you have your comments or suggestions ready for discussion with Dr. Pomeroy at a meeting which we will arrange early next week. Dr. Pomeroy will be here Monday through Wednesday. During that period I hope we can consolidate any comments or suggestions that you might develop in the meantime or at the meeting so that the report can be typed while Dr. Pomeroy is here and a final review be made with interested parties before he leaves; thus permitting printing and submittal of the final report to us shortly after he returns to his office in Pasadena later next week.

I particularly call your attention to page 5, item 4, which supports Dr. Pomeroy's recommendation. It may be desired by some of you to contact Harold Roland to discuss the experience at his installation, and if so, his telephone number could be obtained from Dr. Pomeroy's office, (213) 795-7553.

In the meantime I will be in touch with you to arrange a meeting with Dr. Pomeroy to discuss your comments.

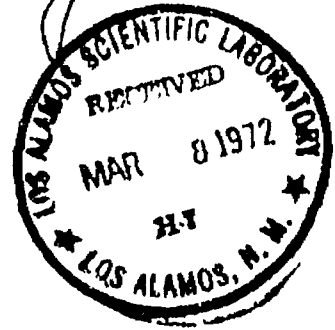
L. P. Reinig
L. P. Reinig

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Attach.

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cc: M&R
Fll



Received by ER-RPF
JUN 22 1992
New



*Reference
12.2 Annex*

Cooling Towers of the LASL Electric Generating Facility

Cooling towers for the electric generating facility of LASL, operated by Zia Company, use the entire effluent flow of the TA-3 sewage treatment plant, plus a minor amount of water from the municipal supply, for make-up. The average water balance of the towers (average of typical winter and summer days, heat dissipation by the towers being about 10% greater in the summer than in the winter) is as follows:

Make-up	512,000 gallons per day (metered)
Evaporation	338,000 " " " (calculated)
Blowdown	128,000 " " " (metered)
Windage loss	46,000 " " " (difference)
Circulation rate	18,990 gallons per minute (metered)
Windage loss, % of circulation	0.264% (calculated)
Chromate usage, as CrO ₄	35.9 ⁷ pounds per day (records)

The water is treated with acid to maintain the pH at 6.0, chromate to hold a concentration of 30 to 35 mg/l as CrO₄ (15 to 18 mg/l as Cr), a small amount of polyphosphate and a smaller amount of zinc. The feed water is given nominal chlorination as it enters, and a slug of 12 pounds of chlorine is added three times a day.

The blowdown is discharged to Sandia Canyon. There is a chance that chromate may eventually appear in downstream well waters. It is not certain that this will happen. If the water percolates through sediments containing organic matter, or sulfide, the chromate will be removed, but since there is no assurance that this will happen, the continued discharge as at present must be considered impermissible. The following alternatives may be considered.

1. Continue the tower operation as at present; construct a plant to reduce chromate with sulfur dioxide, then precipitate it as Cr(OH)₃. The