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Albuquerque Operations  
Los Alamos Area Office  
Los Alamos, New Mexico 87544

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SURFACE WATER QUALITY BUREAU

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Myron Knudson, Director  
Water Management Division, 6W  
U.S. Environmental Protection Agency, Region VI  
Allied Bank Tower at Fountain Place  
1445 Ross Avenue  
Dallas, Texas 75202-2733

Dear Mr. Knudson:

ADMINISTRATIVE ORDER DOCKET NO. VI-87-047 NPDES PERMIT NO. NM0028355

The following information responds to the above-mentioned Administrative Order (AO). The response is organized according to the numerical sequence of the AO.

Violations of Part I.A:

December 1986

The fecal coliform violation reported (353,000/100 ml) for Outfall 01S (Technical Area [TA] 3) was caused by inadequate chlorination/detention of the effluent prior to discharge. This Outfall is included in the Federal Facilities Compliance Agreement (FFCA) and the Quarterly Progress Report (August 3, 1987) previously submitted provides information on the status of compliance improvements. Within the past few weeks new chlorine feed equipment was received and installed so that proper effluent disinfection will occur and the fecal coliform limitations will be met.

The total suspended solids (TSS) violations reported (44.22 mg/l & 82.95 mg/l) for Outfall 03S (TA-16) were caused by the sloughing of biological organisms from the trickling filter and/or secondary clarifier. Generally speaking, this Outfall has had an excellent compliance record. The operation and maintenance (O & M) records were examined and the O & M improved by requiring more frequent brushing of the treatment units to preclude excessive build-up of biological organisms on the side walls of the treatment units.



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The pH violation reported (10.0 s.u.) for Outfall 09S (TA-53) was caused by excessive algae population growth in the lagoons and the buffering effect that aquatic plant respiration has on pH. The lagoon system was designed for no discharge, and during the past several months a study was completed to identify sources of excessive hydraulic loading causing discharge, such as non-contact cooling water effluent to the lagoon system. Such sources of hydraulic loading have been identified and an engineering project has been initiated to divert them from the sanitary sewer system and permit them separately under permit category 04A non-contact cooling water. A proposed study of methods to enhance evaporation which will be implemented this Fall, as well as the diversion of cooling water, will aid in assuring no discharge and therefore compliance with permit limitations.

The biochemical oxygen demand (BOD) and total suspended solids (TSS) violations reported (12.87 lbs/day, 20.33 lbs/day, 47.4 mg/l) for Outfall 10S (TA-35) were caused by hydraulic loading on the treatment plant. Upon close examination of the permit effluent limitations and the present flow regime at the treatment plant, it appears that a permit modification request should be prepared to account for greater effluent flow at this Outfall and its affect on the permit loading limitations. Such a permit modification request will be submitted by October 1987.

#### January 1987

The pH violation reported (9.34 s.u.) for Categori 03A, Outfall 020 (TA-2-29) was caused by a slight excess of water treatment chemical feed. A letter was written to the Laboratory's Facilities Engineering Division responsible for O & M of the water treatment systems requesting improved O & M. Adjustments of the chemical feed system will correct the problem. In addition, a study has been initiated to investigate methods of improving discharge quality from the treated cooling water systems, as well as promoting water conservation.

#### February 1987

The pH violation reported (10.6 s.u.) for Outfall 05S (TA-21) was caused by alkaline boiler blowdown effluent to the sanitary treatment plant. This Outfall is included in the FFCA and compliance improvements are significantly ahead of schedule. The Outfall violation has been corrected by the installation of neutralization treatment at the steam plant and the diversion of the boiler blowdown to a newly permitted Outfall 129. The FFCA Quarterly Progress Report for the third quarter will contain detailed sampling data demonstrating permit compliance.

#### March 1987

The pH violation reported (4.9 s.u.) for Outfall 051 (TA 50-1) was suspected to be caused by sampling or laboratory error. The effluent from this treatment plant is consistently on the alkaline side due to the treatment process, and a low pH (4.9 s.u.) is extremely irregular. A discussion with sampling and Laboratory personnel was held to emphasize the need to prevent such errors from occurring. In addition, the pH control equipment at the treatment plant was checked to assure accuracy.

The pH violation reported (10.2 s.u.) for Outfall 09S (TA-53) was caused by excessive algae growth in the sanitary lagoon system. Please refer to the above-mentioned comments (December 1986) on this Outfall.

The BOD and TSS violations reported (11.55 lbs/day, 30.3 mg/l, 4.27 lbs/days) for Outfall 10S (TA-35) were caused by excessive hydraulic loading at the sanitary lagoon treatment system. Please refer to the above-mentioned comments (December 1986) on this Outfall.

April 1987

The Free Available Chlorine violations reported (0.413 mg/l, 1.13 mg/l) for Category 03A, Outfall 114 (TA 53-2) were caused by excessive chlorine treatment of cooling water systems. A letter was written to the Laboratory's Facilities Engineering Division responsible for the O & M of these water treatment systems requesting improvements in the chlorination systems or methods so that residual chlorine levels do not exceed the permit. A study has been initiated to investigate methods of improved cooling water treatment. This Outfall is also being evaluated for installation of dechlorination equipment.

The TSS violations reported (84.37 mg/l, 165.5 mg/l) for Outfall 03S (TA 16) were caused by extensive O & M occurring during the composite sampling period for the Outfall. The O & M caused a minor plant upset which resulted in additional suspended solids in the effluent. The operators were instructed on methods to reduce plant upsets.

The pH and TSS violations reported (10.1 s.u., 81.6 mg/l) for Outfall 04S (TA 18) were caused by excessive algae growth in the sanitary lagoon system. This Outfall is included in the FFCA and the Quarterly Progress Reports previously submitted contain pertinent information on the activities conducted thus far to improve compliance at this Outfall.

#### Parts II. D. 6. 7. & 8

The permittee has reviewed these sections of the permit and the corresponding regulations contained in 40 CFR 122.41 (1) (6) and (7) and 40 CFR 122.42 (a)(1) and (a)(2). Should a discharge situation arise in the future affecting these sections of the permit, the permittee will comply with the requirements contained therein.

#### Part II. D. 6

In addressing this section of the AO, administrative notice should be taken of previous correspondence directed to the Environmental Protection Agency (EPA) Region VI on June 5, 1987 and July 30, 1987 pertinent to this subject. Likewise, notice should be taken of all written and verbal information supplied by Los Alamos National Laboratory personnel during a meeting in Dallas with EPA Region VI, on July 10, 1987.

Part II. D. 6 requires 24-hour reporting for discharges which may endanger health or the environment.

Regarding the discharge of barium-laden wastewater on December 19, 1986, the volume of wastewater discharged, the remote discharge point within a security area, and the nature of the dry ephemeral channel into which the discharge occurred were several factors taken into consideration by technical staff in making the determination that the discharge did not endanger health or environment. Moreover, the written and verbal information (particularly the soil analyses contained in the letter dated July 30, 1987) demonstrates that there was not a noncompliance which endangered health or the environment on December 19, 1986, and thus in the opinion of this permittee, no violation of Part II. D. 6. of the permit occurred.

#### Part II. D. 7

Part II. D. 7 and its supporting regulation 40 CFR 122.41(7) requires reporting of other instances of noncompliance. In the context of the regulations, it is clear that this permit condition has reference to instances of noncompliance with the permit. Barium limitations are not set in the permit. Neither are there any other conditions in the permit which would require reporting. Therefore, failure to report such a discharge cannot amount to noncompliance with the permit.

#### Part II D. 8

Part II. D. 8 of the permit refers to changes in discharges of toxic substances and cites 40 CFR 122.42 (a)(1) and (a)(2). This section of the permit, as well as the cited regulations applies to the discharge of a "toxic pollutant" which appears to be defined and controlled by 40 CFR 129. Toxic pollutants are defined by Section 307(a) of the Clean Water Act as those pollutants listed in table 1 of the Committee Print Numbered 95-30 of the Committee on Public Transportation of the House of Representatives and published by the EPA Administrator. Barium does not appear on that list. Furthermore, there are no effluent guidelines and limitations for barium published pursuant to 40 CFR 129. The National Pollutant Discharge Elimination System (NPDES) application forms 2C and 2D list only asbestos as a toxic pollutant and do not even include barium in the list of hazardous substances. Therefore, it is the opinion of this permittee that there was no violation of Part II. D. 8. of the permit.

Nevertheless, according to our letter dated July 30, 1987 a treatment system was to be installed on Outfall 055 and was to be operational by mid-September 1987. Please be apprised that the treatment system has been installed and that it will be operational by September 1, 1987.

#### Additional Compliance Issues

As previously stated in correspondence and FFCA Quarterly Progress Reports, a line item appropriation has been requested from Congress to fund a Consolidated Wastewater Treatment System at Los Alamos National Laboratory. This request for approximately \$16 million, if approved, would result in the elimination of nine existing sanitary wastewater treatment plants and their NPDES Outfalls. At the present time engineering design criteria has been written and limited site preparation has been authorized, pending receipt October 1, 1987 of funding for performing the detailed engineering design. The construction of a state-of-the-art consolidated wastewater treatment plant within the next four years is viewed as the most practical and expedient method of assuring compliance with our NPDES permit regarding sanitary wastewater effluent. In the meanwhile, as evidenced by the FFCA, every reasonable effort will be made to assure our sanitary discharges comply with the permit requirements.

In summary, the requirements of Section V.A of the AO have been addressed by this response. All of the above-mentioned information, as well as the information proffered by reference details the specific actions taken to eliminate and prevent recurrence of the violations cited in the AO. It is the belief of the permittee that such actions are and will be sufficient to prevent recurrence of the violations cited. With regard to Section V.B. of the AO, the implementation of the present FFCA will continue on schedule. Additionally, the studies associated with Category 03A treated cooling water discharges will be completed by September 1988, while the study associated with the enhancement of evaporation at treatment plant permitted as Outfall 09S will be completed by May 1988. The funding and subsequent design and construction of the Consolidated Wastewater Treatment Plant by 1991 is the most expedient solution for improving the quality of the sanitary wastewater discharges.

Biological wastewater treatment systems in particular, as well as physical/chemical treatment processes are subject to occasional upsets or malfunctions. I trust that EPA realizes the realistic constraints of wastewater treatment processes and takes into consideration our untiring efforts and financial commitments to assure the highest degree of compliance with our NPDES permit.

M. Knudson

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Should you have any questions regarding this response to the A0, please call James Phoenix of my staff at FTS 843-5288.


Sincerely,

Original signed by  
Harold E. Valencia

Harold E. Valencia  
Area Manager

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cc:

 Kathleen Sisneros, NMEID, Santa Fe, NM  
James Highland, USEPA, Region VI, Dallas, TX