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Original via Federal Express Overnight
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March 28, 2000

Mr. William B. Hathaway
Director
Water Quality Protection Division
U.S. Environmental Protection Agency (6WQ)
1445 Ross Avenue
Dallas, Texas 75202-2733

RECEIVED

APR 04 2000

Lawyer Counsel
General Law

RE: State Certification

Dear Mr. Hathaway:

Enclosed, please find the state certification for the following permit:

University of California / U.S. Dept of Energy – Los Alamos National Laboratory
NPDES Permit # NM0020303
28353

Comments and conditions are enclosed.

Sincerely,

James H. Davis, Ph.D.
Bureau Chief
Surface Water Quality Bureau

cc: Evelyn Rosborough, USEPA (6WQ-CA)
NMED, District 2, Santa Fe

Mr. Dennis Erickson (Via Certified Mail – P 332 409 236)
Director, Environment, Safety, and Health Division
P.O. Box 1663, Mail Stop: K491
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

JHD:gs



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LANL Permit (NPDES Permit) 99-1917

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Mr. Gregg Cooke, Regional Administrator
Environmental Protection Agency
1445 Ross Avenue
Dallas, TX 75202-2733

APR 04 2000

La...
General Law
STATE CERTIFICATION

Date: March 28, 2000

RE: University of California / U.S. Dept of Energy – Los Alamos National Laboratory
NPDES No. NM0028355

Dear Mr. Cooke:

The New Mexico Environment Department has examined the proposed NPDES permit NM0028355 above. The following conditions are necessary to assure compliance with the applicable provisions of the Clean Water Act Sections 208(e), 301, 302, 303, 306, and 307 and with appropriate requirements of State law. Compliance with the terms and conditions of the permit and this certification will provide reasonable assurance that the permitted activities will be conducted in a manner which will not violate applicable water quality standards and water quality management plan.

The State of New Mexico

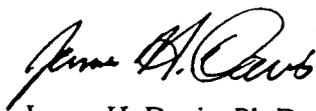
- certifies that the discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of State law
- certifies that the discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of State law upon inclusion of the following conditions in the permit (see attachments)
- denies certification for the reasons stated in the attachment
- waives its right to certify

In order to meet the requirements of State law, including water quality standards and appropriate basin plan as may be amended by the water quality management plan, each of the conditions cited in the draft permit and the State certification shall not be made less stringent.

The Department reserves the right to amend or revoke this certification if such action is necessary to ensure compliance with the State's water quality standards and water quality management plan.

Please contact Glenn Saums, (505) 827-2827, if you have any questions concerning this certification. Comments and conditions pertaining to this draft permit are attached.

Sincerely,



James H. Davis, Ph.D.
Bureau Chief
Surface Water Quality Bureau

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Department of Energy/University of California
Los Alamos National Laboratory
State Certification of Proposed NPDES Permit
NM0028355
March 28, 2000

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APR 04 2000

Introduction

Laboratory Counsel
General Law

Since this permit was drafted (Dec. 20, 1999) and proposed (Jan. 28, 2000), revisions to the State's water quality standards adopted in accordance with Section 303 of the Clean Water Act [33 U.S.C. 1251 et seq.] have taken effect. In December of 1999, the New Mexico Water Quality Control Commission (WQCC) approved revisions to New Mexico's *Water Quality Standards for Interstate and Intrastate Streams* (WQS) [20 NMAC 6.1]. The WQCC's revisions to the WQS were filed with the State Records Center on January 24, 2000. In accordance with State rules, the revised standards, renamed *Standards for Interstate and Intrastate Surface Waters*, (SSW) became effective on February 23, 2000. Therefore, while EPA's proposal occurred under one set of "old" standards, the permit will be issued after the effective date of new and different standards. The Surface Water Quality Bureau (SWQB) believes the permit should protect standards in place at the time the permit is issued. Today's certification considers the "new" standards.

Comments Which ARE Conditions Of Certification

The following revisions are necessary to assure that discharges allowed under the NPDES permit protect water quality standards adopted by the WQCC in accordance with § 303 of the Clean Water Act (CWA) and which are published in the document entitled *Standards for Interstate and Intrastate Surface Waters* (SSW)[20 NMAC 6.1]:

1. The Proposed Permit and Fact Sheet indicate that discharges allowed under this permit are to various ephemeral tributaries thence to the Rio Grande in the Rio Grande Basin (Fact Sheet Page 5 Section III).

Since discharges allowed under this permit are to ephemeral waters of the State, Section 1103.A of the SSW applies to these discharges. Section 1103.A states, in part,

1. When a discharge creates a water which could be used by livestock and/or wildlife in a non-classified, otherwise ephemeral surface water of the State, such water shall be protected for the uses of livestock watering and/or wildlife habitat by the standards applicable to these uses as set forth in Section 3100 of this Part.

As noted above, the WQCC has adopted revisions to the WQS. One revision to the WQS involves the numeric standards for the wildlife habitat category of uses [SSW -- 20 NMAC 6.1.3100.L]. Specifically, the numeric standard for total chlorine residual has

changed from 1.0 mg/L (§ 3101.L.3 "old" WQS) to 11 µg/L or 0.011 mg/L ("new" SSW recodified at § 3100.L.).

EPA proposed technology based chlorine limitations (Monthly Average -- 0.2 mg/L & Daily Maximum -- 0.5 mg/L) for the following outfalls: 001, 03A021, 03A022, 03A024, 03A027, 03A130, 03A158, 03A181, 03A185, 03A199, 03A028, 03A048, 03A049, 03A113, 03A047, and 03A160.

While the above proposed effluent limitations would be protective of the WQS effective at the time this permit was proposed, they are not protective of currently applicable numeric SSW for protection of the "wildlife habitat" designated use.

Appendix A of EPA's Fact Sheet summarizes effluent quality of discharges under this permit. The data tables (for outfalls where no technology based effluent limitations for chlorine were proposed) were also reviewed by SWQB to ascertain if there is a reasonable potential that these discharges would cause a violation of the new chlorine WQS.

First, SWQB confirmed with the EPA permit writer (personal communication, G. Saums/S. Wilson 3/10/00) that there are typographical errors in the units for Total Chlorine Residual for some of the outfalls in Appendix A. The units listed are "µg/L." Review of the permit application forms and previous Discharge Monitoring Reports (DMRs) submitted by the applicant indicate the values for Total Chlorine Residual in some cases were not properly converted from mg/L to µg/L (e.g., the value given for outfall 01A001 is 0.1 µg/l, which is 3 orders of magnitude less than the EPA's Minimum Quantification Level of 100 µg/L given in Appendix B2)." In some cases (e.g., outfall 13S - 1660 µg/l) the conversions are correct.

Accordingly, SWQB believes the following outfalls (in addition to those listed above) require water quality based effluent limitations for chlorine to assure protection of the applicable numeric water quality standard for chlorine: 13S, 051, 05A055, 05A097.

Therefore, the State includes as a condition to this certification that the permit's chlorine limitation(s) shall be made more stringent. The following language, which is consistent with other NPDES permits in the State of New Mexico, is provided. Part I.A. "Effluent Limitations and Monitoring Requirements" of the permit should be amended as indicated below or with equivalent language. These changes are necessary to assure the numeric water quality standard (20 NMAC 6.1.3100.L) adopted in accordance with § 303 of the federal Clean Water Act [33 U.S. C. 1251 *et seq.*] is protected.

The effluent shall contain NO MEASURABLE total residual chlorine (TRC) at any time. NO MEASURABLE will be defined as not detectable concentration of TRC as determined by any approved method established in 40 CFR 136. If during the term of this permit the minimum quantification level for TRC becomes less than 0.011 mg/L, then 0.011 mg/L shall become the effluent limitation. The effluent limitation for

TRC is the instantaneous maximum and cannot be averaged for reporting purposes. The maximum dechlorinated TRC shall be monitored daily by grab sample when chlorine is used.

The SWQB comments that the monitoring frequency requirements for chlorine in the proposed permit vary between once per month and once per quarter. Given the variable nature of chlorine concentrations in most effluents and the toxic qualities of this pollutant to wildlife (particularly to aquatic invertebrates), NMED recommends EPA review and increase the monitoring requirements for chlorine.

2. As in condition 1 above, the following condition relates to recent changes made by the WQCC in the "wildlife habitat" use category of the SSW [20 NMAC 6.1.3100.L]. Water quality based effluent limits of 0.012 µg/L for mercury and 0.002 mg/L for selenium have been proposed at a number of outfalls to protect the "old" wildlife habitat numeric standard for total mercury and total selenium respectively. At the time this proposed permit was drafted and submitted to public notice, the subject numeric standards as defined in the WQS were 0.012 µg/L for mercury and 0.002 mg/L for selenium. Included in the WQS revisions, the numeric standard for total mercury was changed from 0.012 µg/L to 0.77 µg/L, and the numeric standard for total selenium was changed from 0.002 mg/L to 0.005 mg/L.

Title 40, Section 124.53(e)(3) of the *Code of Federal Regulations* requires the State to provide "[a] statement to the extent to which each condition of the draft permit can be made less stringent without violating the requirements of State law, including water quality standards." Accordingly, the SWQB comments the mercury limitations may be made less stringent to the level of 0.77 µg/L but shall not be made less stringent than 0.77 µg/L, and the selenium limitations may be made less stringent to the level of 5 µg/L (0.005 mg/L) but shall not be made less stringent than 5 µg/L.

The limitations shall not be made less stringent in order to assure the receiving stream(s) will not exceed an applicable water quality standard (i.e., 0.77 µg/L and/or 0.005 mg/L) which has been adopted by the State in accordance with § 303 of the federal Clean Water Act [33 U.S. C. 1251 *et seq.*].

Comments Which Are NOT Conditions of Certification

1. As noted above, the WQCC has adopted revisions to the WQS wildlife habitat category [20 NMAC 6.1.3100.L]. In addition to changes already discussed, the WQCC revised the narrative requirements regarding polychlorinated biphenyls (PCBs) of the "old" WQS and adopted a numeric standard of 0.014 µg/l total PCBs.

The applicant's effluent data as summarized in the permit application indicate that where PCBs were analyzed, they were reported undetected utilizing methods currently "approved" under 40 CFR 136 and (for purposes of reporting) minimum quantification levels (1.0 µg/l) established by EPA Region 6 circa 1993. Effluent quality as evaluated with these methods and reporting requirements do not indicate PCB concentrations in the

discharges that would threaten the current wildlife habitat water quality standard. SWQB is concerned this may be an artifact of reliance upon outdated analytical methodology and MQL reporting criteria and may not represent potential discharges of PCB to the environment. SWQB, based upon other evidence, is concerned there may be a reasonable potential for discharges, from outfalls at LANL, to cause violations of the 0.014 µg/L standard. Analyses of sludge derived from the sanitary waste system by LANL¹ indicate elevated levels of PCB indicating a potential source of PCB discharge(s) to this facility. Analyses of suspended sediments in water samples collected from watercourses around the LANL facility by both the NMED and LANL indicate PCB concentrations up to 6.33 parts per million². While PCBs may no longer be actively used at the LANL, PCBs were commonly used in the past throughout the facility as evidenced, in part, by the number of PCB contaminated sites (approximately 224) identified under the Resource Conservation and Recovery Act as Solid Waste Management Units (SWMUs). These facts are cause for concern that PCBs may continue to be discharged and water quality standards threatened.

PCBs are known to bioaccumulate and biomagnify through wildlife food chains. PCBs are Clean Water Act § 307 Toxic Pollutants and known to be carcinogens to animals. In addition to the new numeric standard for PCB stated above, the WQCC also included the narrative language of SSW § 3100.L as follows:

[w]ildlife habitat should be free from any substance at concentrations that are toxic to or will adversely affect plants and animals that use these environments for feeding, drinking, habitat, or propagation, or can bioaccumulate and impair the community of animals in a watershed or the ecological integrity of surface waters of the State.

In recent years, significant advances have been made improving the analytical methodology for determining PCB concentrations in water. Unfortunately EPA "approval" of new analytical methods in 40 CFR 136 has not kept up with advances in analytical technology. EPA regulations at 40 CFR 122.41(j)(4) give EPA the flexibility to specify in a permit other methods than those specified in 40 CFR 136. Recent changes in the SSW (§1106) now allow testing for purposes of the SSW to include EPA "accepted" as well as EPA "approved" methods.

SWQB recommends EPA include PCB monitoring from each outfall at a frequency of once per year. SWQB further recommends EPA method 1668, Revision A: *Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS* should be specified as the method of analyses. Since Method 1668 is relatively new, the SWQB has written a separate letter (copy attached) to Mr. William Telliard, at EPA Headquarters requesting he consult with the Region in regard to use of this method. If PCB monitoring is included, an appropriate Minimum Quantification Level (MQL) for this method should be included in Part II Section A.

¹ See copy of 5/16/96 LANL memorandum attached.

² LANL Environmental Restoration Project, *Draft Sampling and Analyses Plan for Upper Sandia Canyon* Nov. 26, 1997, Table I.3-4.

2. LANL is authorized to discharge wastewater from the Power Plant facility through outfall 001. Best Available Technology (BAT) effluent limitation guidelines have been established for the Steam Electric Power Generating Point Source Category (40 CFR 423.13). The guidelines state at 40 CFR 423.13(a):

[t]here shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

SWQB notes EPA has included such prohibitive language in other NPDES permits in New Mexico for industries involved with this type of activity (e.g., Cobisa-Person Limited Partnership. - NM0030376). SWQB therefore recommends inclusion of this language for outfall 001 under "Sampling Location(s) and Other Requirements."

3. EPA makes the distinction in the draft permit (Page 10 of Part I) that Tritium levels in effluent, **when accelerator-produced ("*3")**, should not exceed concentrations above 20,000 pCi/L (State of New Mexico Standards For Interstate and Intrastate Streams) for the monthly or daily max. Review of DMRs (e.g., for Outfall 051) submitted by LANL pursuant to the previous NPDES permit, indicate that Tritium concentrations have exceeded this limit. When Tritium limits were exceeded, LANL indicated on the DMR that the exceedance was not accelerator-produced. Review of the May 1998, reapplication however, does not clarify how LANL verifies the accuracy of this statement.

Verification is needed. LANL documentation such as the letter included in the January 1999, Supplement to the Reapplication (July 3, 1997, ESH-18/WQ&H: 97-0190) indicates that accelerator produced isotopes do go to the TA-50 RLWTP. The letter states, in part,

The Laboratory has also identified trace amounts of accelerator produced isotopes discharging to the TA-50 RLWTP during its annual RLWTP Collection System Survey. These are reported on Attachment 4

Unfortunately, Tritium was an isotope not listed or analyzed for as part of Attachment 4.

LANL also indicates in the Waste Acceptance criteria for the RLWTF, that waste profile forms produced by waste generators are used to determine if accelerator-produced Tritium is present in the RLWTF waste stream. This information is in the form of a box on the survey form that the operator either checks or does not check. This however, is far from establishing any proof that DOE or LANL is effectively regulating this nuclear material, and/or enforcing this prohibition.

"Acceptable Knowledge" (AK) is also used by LANL as a method to segregate and characterize the radiological components of a waste stream. "AK documentation should clearly demonstrate that the information is sufficient to identify the waste stream accurately and completely", and "ensure the AK documentation is relevant and traceable

to a waste stream and not merely a list of information sources for a particular process operation” are both quotes from the LANL Laboratory Implementation Guidance Document (LIG) document # 404-00-02.0. In addition, LIG 404-00-02.0 states, “A detailed description of the waste-generating process” should be considered as information provided in AK documentation.

Since AK is used by LANL to segregate and characterize radiological components of a waste stream, a means of distinguishing between accelerator and non-accelerator produced tritium may also be available. Therefore, SWQB recommends the following clarification language should be added to the footnote on Page 10, Part I and any other pages having this footnote regarding accelerator-produced Tritium.

LANL must provide information (e.g. AK) on the NPDES DMR verifying that the source of tritium has NOT been accelerator produced.

4. On Page 6, Part I of the proposed permit, the Sampling Location for outfall 13S is described as:

*[s]amples ...shall be taken at the following location(s): at the Parshall Flume following the chlorine contact chamber and prior to discharge to either Canada del Buey ...or into the effluent reuse line to Sandia Canyon ... or other outfalls utilizing treated effluent in the Outfall 001 and Category 03A(*1).*

The SWQB prefaces the following comment by stating it is unclear as to whether the permittee wishes to maintain the optional discharge from this facility to Canada del Buey (identified by LANL as 13S(b) in Appendix F of the May 1988 Permit Reapplication). It should also be noted EPA did not include in the proposed permit any outfall labeled as 13S(b). The permittee has recently installed plugs in this line that would limit its use. Since the discharge point was retained in the proposed permit, NMED is offering comments on the presumption the discharge will be included in the permit and thus potentially used by the facility.

SWQB has reviewed diagrams of this facility previously provided by the permittee (copies attached). These diagrams were provided by SWQB to the EPA as part of the May 1997 NPDES Compliance Evaluation Inspection report (Attachment 3 Figs 4-6). SWQB believes the sampling location after the Parshall Flume (identified by LANL as 13S(a) in Appendix F of the May 1988 Permit Reapplication) is not adequate to properly characterize discharges from this facility to the environment. Samples and flow measurements taken after the Parshall Flume (located prior to the reuse line, holding pond and outfall to Canada del Buey) are not representative of the volume and nature of discharges for the following reasons:

1) quality measurements taken immediately after the Parshall Flume may not be representative of discharges through 13S(b) because the effluent holding pond has inlet sources other than effluent coming through the

flume (e.g., fig. 5 shows a "12-inch Chlorine Contact bypass from Clarified Effluent Manhole" line) leading directly from the clarifier to the pond and plumbing exists that would allow contents of the pond to discharge to Canada del Buey through 13S(b). Additionally, LANL representatives have, when questioned about the presence of water and "greasy appearing bathtub rings" in the 13S(b) sump vis-à-vis their reports that no effluent has ever discharged through the outfall, verbally responded that the source of the water was storm water runoff. This location is downhill of the sludge drying beds and most of the wastewater treatment units, therefore it is feasible that storm water runoff could entrain contaminants from this area resulting from spills, overflows, or the normal working of this area. Such entrained contaminants (e.g., sludge) would be discharged but not measured if the only sampling point is after the Parshall Flume;

2) when discharging to Canada del Buey, the quality sampling point, if it were to remain at the currently specified location, would be before the last treatment unit. According to the LANL diagram (labeled Fig. 6) there is a "SO₂ Diffuser" after the second "6-inch Parshall flume to (the) Canyon." In order to be representative, effluent quality sampling should be after the last treatment unit; and

3) volume measurements taken at this location (i.e., at the Parshall Flume² between the chlorine contact chamber and the outlet to the reuse line or holding pond) do not discriminate quantities of effluent discharged directly to the reuse line and subsequently to other outfalls in other canyons after reuse, from quantities discharged directly to Canada de Buey (13S(b)), or into the adjacent holding pond for later discharge to either the reuse line or 13S(b). Further, inflow to the effluent holding pond received through the above mentioned "12-inch Chlorine Contact bypass from Clarified Effluent Manhole" line would also be unmeasured.

4) volume measurements at the Parshall Flume may also be inaccurate due to possible improper installation of the flume. In review of the schematic diagrams it was noted that effluent must pass through two 90-degree turns immediately before entering the throat of the flume. According to the *U.S. Dept. of Interior, Bureau of Reclamation - Water Measurement Manual - 1981 reprint* regarding approach conditions for Parshall Flumes it states on page 52, in part: "...Parshall Flumes should not be placed at right angle to flowing streams...."

NMED proposes the following changes to address these concerns:

1) retain the proposed requirement to continuously monitor flow at the Parshall Flume (if the flume is deemed accurate) and monitor effluent

quality discharged to the holding pond or reuse system after the Parshall Flume. Report all data as outfall 13S(a); and

2) add required daily inspection of the discharge point identified by LANL as 13S(b) at the outfall to Canada del Buey, and if any discharge occurs, require manual measurement (e.g., staff gage for volume and grab samples) and separate reporting of the data on a Discharge Monitoring Report as outfall 13S(b).

In regard to Outfall 13S, (draft permit, Page 6 of Part I):

Under "Sampling Location(s)" it states, in part,

*"...or other outfalls utilizing effluent in the Outfall 001 and Category 03A (*1)" [emphasis added].*

Also under "Footnote '*1'" it states:

Treated effluent from the SWSC plant shall be controlled utilizing Best Management Practices in such a manner as to enhance and maintain wetland areas in Sandia Canyon and Canada del Buey, and to minimize movement off site [emphasis added].

SWQB suggests EPA consider the following replacement to Footnote #1 Page 6 of Part I:

**1 Treated effluent from the SWSC plant and other outfalls utilizing treated effluent in the Outfall 001 and 03A Outfall Category, shall by utilizing Best Management Practices, control, enhance, and maintain wetlands such that off site movement of any contaminants held by wetlands associated with discharges from these outfalls are minimized.*

The requirement "to enhance the wetland in Canada del Buey" should be dropped because a letter from LANL included in the January 1999, Supplement to the Reapplication dated March 13, 1998, (ESH-18/WQ&H: 98-0086) states, in part:

To date, Outfall 13S has not discharged into Canada del Buey, therefore, wetland vegetation does not exist below the TA-46 SWSC Plant [emphasis added].

The EPA's proposed language under sampling locations particularly regarding Category 03A outfalls suggests that all Category 03A Outfalls are or will be utilizing effluent treated by SWSC. Page 5 of the Fact Sheet lists 15 outfalls in the 03A category. Not all Category 03A Outfalls however, discharge to Sandia Canyon. For example, 03A021, 03A181, and 03A022 discharge to Mortandad Canyon, and 03A158, 03A129, 03A047, 03A048, and 03A049 discharge to Los Alamos Canyon. Mortandad and Los Alamos Canyons both contain wetlands. The requirement to control, enhance, and maintain

wetlands such that offsite movement of any contaminants held by these wetlands are minimized should also be applied to all outfalls proposed in the draft permit which impact wetlands (e.g. outfalls discharging to Sandia, Mortandad, Los Alamos, and Canon de Valle). SWQB's suggested revision clarifies the extent of the usage of the effluent produced by SWSC and captures EPA's intent to enhance and maintain the wetlands associated with these discharges, and to minimize movement of contaminants off site by utilizing Best Management Practices.

While EPA has proposed requirements to utilize Best Management Practices (BMPs) as noted above, it has not required any monitoring or reporting in regard to implementation of those BMPs. SWQB suggests EPA require periodic (e.g., annual) reporting on implementation and effectiveness of BMPs.

6. It has recently come to NMED's attention that perchlorate-containing compounds are used at buildings connected to the RLWTF that are then treated (and possibly discharged) by the RLWTF. LANL has identified Mortandad Canyon as a perchlorate-related site. A letter to Julie Wanslow of the NMED-Hazardous and Radioactive Materials Bureau (HRMB) (ESH-18/WQ&H: 99-0475, 12/22/99) states in part,

The second area selected as a potential perchlorate-related site is Mortandad Canyon below the Laboratory's NPDES permitted Outfall 051, the point of discharge from effluent from the TA-50 Radioactive Liquid Wastewater Treatment Facility (RLWTF). The RLWTF treats and discharges aqueous low-level radioactive waste from technical areas within the Laboratory. A query of the Laboratory's Automated chemical Inventory System (ACIS), a database used to track chemicals from 'cradle-to-grave', shows that a number of perchlorate-containing compounds are used at buildings connected to the RLWTF. Based upon this information, the Laboratory selected Mortandad Canyon as a perchlorate-related area [emphasis added].

As a result of this discovery, LANL has initiated investigations of the Mortandad Canyon alluvial and regional aquifer groundwater wells for perchlorate.

In addition, during a December 6-17, 1999, EPA site visit, LANL split samples with EPA which were collected in Mortandad Canyon below the RLWTF and analyzed for perchlorate. EPA (Rich Meyer, RCRA Branch) indicated analysis of these samples showed perchlorate levels in concentrations from 1.0 ppm to 4.4 ppm. Samples collected and analyzed by EPA from effluent being discharged from Outfall 051 showed 1.5 ppm perchlorate.

The EPA's Office of Water has made the following statement regarding the ecological effects of perchlorate³:

³ <http://www.epa.gov/ogwdw/ccl/perchlor/perchlo.html>

[p]erchlorate salts are quite soluble in water. The resultant anion (ClO_4^-) is exceedingly mobile in aqueous systems and can persist for many decades under typical groundwater and surface water conditions, due to kinetic barriers to its reactivity with other available constituents. This mobility and persistence may pose a threat to ecological receptors and whole ecosystems, either by direct harm to organisms, or it may indirectly affect their ability to survive and reproduce [emphasis added].

EPA has yet to develop and recommend a Clean Water Act § 304 criterion for perchlorate. Based upon the EPA's above statement of concern, SWQB requests EPA consider the above information (some of which was not available to EPA during their development of the draft permit), and to add to the final permit monitoring requirements at Outfall 051 for perchlorate at a frequency of at least once per year. Results from these samples will provide necessary information to determine if a later permit modification would be appropriate to protect the SSW's general standard 20 NMAC 6.1.1105.F.

7. Previous permitted discharges from Outfall 05A055 have resulted in extensive contamination of soils, sediments, perched alluvial systems, and potentially deep aquifers with high explosives RDX and HMX and their breakdown products⁴. RDX and HMX were listed in LANL's permit application as potentially present, but no analytical data was presented for these contaminants. At a December 2, 1999, meeting with NMED and EPA, LANL provided some preliminary influent and effluent data from the new High Explosives Wastewater Treatment Facility (HEWTF). The data showed 2 detections out of 12 samples from the new HEWTF effluent tanks contained RDX at concentrations of 8 and 86 micrograms per liter.

NMED sampling data (data available upon request) of Outfalls associated with high explosives show HMX, RDX, and TNT in effluent samples.

Page 14 of the LANL NPDES Draft Permit Fact Sheet states,

Examination of the existing technology-based permit limits revealed that the limits at most outfalls are representative of the Best Available Technology Economically Achievable (BAT). The exception to this is at the High Explosives Wastewater Treatment Facility discharge (Outfall 05A055 and 05A097).

EPA has proposed in the LANL NPDES draft permit, limits for RDX based on the LANL data from the new HETF and limits based on the NPDES permit for the DOE Pantex plant (Permit Number TX0107107) that was established on BAT. This same Pantex permit requires additional monitoring for HE components such as HMX and PETN.

Form 2C requires that the determination of whether a pollutant is "believed present", or "believed absent", be determined based on the applicants knowledge of raw materials,

⁴ Letter (ESH-18/WQ&H: 97-0159 dated May 29, 1997 from the January, 1999, Supplement to the reapplication).

maintenance chemicals, intermediate and final products and by-products ("knowledge of Process"), and previous analyses known by the applicant regarding the effluent or similar effluent determination.

LANL has indicated in their permit re-application fact sheets (2C-3 pollutant list) and the "Table On Typical Contaminants Of Concern Used in High Explosives" for Outfall 05A055 and 05A097, the "believed present" indication for several constituents typically known to result during High Explosives processes (e.g., dinitrotoluene, naphthalene, nitrobenzene).

If LANL "believes" these constituents to be present, as indicated by the re-application forms, then it also should be important to establish whether the new HEWTF is capable of and has been removing them from the effluent being discharged. Also, the construction of this facility was EPA compliance driven for the purpose of "assuring that public health and the environment are protected." Currently, sufficient performance monitoring data are lacking. More data is needed to provide a level of confidence in the operating efficiency of the facility to remove these constituents

SWQB suggests EPA add additional monitoring requirements (e.g., HMX, PETN) similar to those at the Pantex permit, which were based on BAT, to Outfalls 05A055 and 05A097, until it is determined that the HEWTF facility is operating in such a manner as to protect the environment and the public health.

Furthermore, in a letter dated December 22, 1999, to Julie Wanslow of NMED-HRMB (ESH-18/WQ&H: 99-0475), LANL indicates NPDES outfalls at TA-16 as potential perchlorate-related sites due to wastewater discharges that may have contained trace amounts of perchlorate. The letter states,

HE R&D activities at TA-9 have developed and processed HE with perchlorate-containing compounds. The NPDES outfalls associated with these R&D activities are considered potential perchlorate-related sites because wastewater discharges may have contained trace amounts of perchlorate. NPDES outfalls at TA-16 are considered potential perchlorate-related sites because wastewater discharges may have contained trace amounts of perchlorate and wastewater discharges from these activities have through NPDES outfalls contained trace amounts of perchlorate. These outfalls have been eliminated, and the wastewater is being treated at the HEWTF.

For reasons cited in the previous comment regarding perchlorate at outfall 051, SWQB suggests EPA consider monitoring for perchlorate as an additional requirement at Outfall 05A055 and Outfall 05A097.

In addition, the LANL permit reapplication contains a Note to Table 2C-3 and 2C-4, for Outfalls 05A055 and 05A097, which suggests that RCRA regulated metals may be present in the waste stream introduced to the HEWTF.

RCRA-regulated metals may be present but not in high enough concentrations to classify these wastewaters as hazardous wastes.

LANL has also requested (e.g., letter dated November 3, 1998, (ESH-18/WQ&H: 98-038) changed conditions be added to Outfall 05A055. This letter requests that RCRA "investigative derived" wastewater be added to the waste stream treated by the HEWTF. The Waste Acceptance Criteria (WAC) developed for the HEWTF was "based upon RCRA Universal Treatment standards (UTS) and current NPDES Permit requirements." UTS standards are not necessarily protective of water quality standards, and it is a fact that the vast majority of Outfalls at LANL are now associated with regulation under RCRA permits as Solid Waste Management Units (SWMUs). Exclusions to RCRA via NPDES permits can therefore be problematic, since the NPDES regulations only prohibit certain hazardous substances from being discharged to surface water.

In the proposed draft NPDES permit, LANL is required to monitor effluent for certain metals at Outfalls 05A055 and 05A097 once per year. Although LANL indicates the addition of RCRA-regulated metals is not in high enough concentration to classify it as hazardous waste, it has not been determined if the concentrations are high enough to exceed state water quality standards.

SWQB requests EPA increase the monitoring requirement for the 05A055 and 05A097 Outfalls for metals whenever RCRA investigative derived waste is introduced into the HEWTF. This may offer some insurance that the NPDES permit will not be used as a possible avenue for discharging RCRA constituents.

8. The proposed NPDES permit does not include the 88-gallon per minute (gpm) flow rate limit for NPDES Outfall 051 previously discussed by the EPA, SWQB and the permittee. This possible limitation had been discussed as a means of preventing migration of downstream contaminated soils/sediments. The Laboratory indicated at a meeting with NMED and EPA Region 6 staff on December 2, 1999, and in a follow-up letter (ESH-18/WQ&H: 9904468) on December 20, 1999, that

The Laboratory has voluntarily committed to decrease the flow rate at NPDES Outfall 051 to Mortandad Canyon based on a discharge from one effluent pump (500 gpm).

In addition, LANL indicated at the meeting and in the December 20, 1999, follow-up letter that,

The Laboratory will also evaluate the need for erosion control measures in Mortandad Canyon below NPDES Outfall 051. Best Management Practices (BMPs) will be installed as needed, under the Laboratory's Storm Water Management Program.

SWQB suggests EPA include LANL's voluntary measure of lowering the flow rate to Outfall 051 to 500 gpm and LANL's commitment to address erosion in Mortandad Canyon below Outfall 051 as a footnote on Page 10, Part I of the draft NPDES permit. This would eliminate LANL's concern about making this a requirement of the permit, and show that LANL is proactive in addressing this concern.

9. The LANL NPDES Reapplication lists the TA-2-1 (Omega West Reactor Site) Groundwater Seepage as an Outfall (Appendix C). Other information submitted in the Reapplication (e.g., Appendix Q, Tab TA-2-1 in Volume 2) and several items of correspondence included in the January 1999, Supplement to the Reapplication (e.g., March 11, 1997, November 24, 1998) contains information regarding this "outfall." Review of the information submitted by LANL did not indicate any exceedance of the SSW. The amount of water being discharged however, was more than SWQB expected. SWQB is concerned that when decontamination and decommission (D&D) commence at the Omega West Reactor Site, that the water quality of the seepage being pumped to the watercourse may change.

It is not clear to SWQB whether EPA has made a decision that discharge from the TA-2-1 Groundwater Seepage does not require permitting (because it was not included in the draft permit) or that it may have been inadvertently overlooked.

EPA is requested to consider SWQB's concerns regarding the change in the water quality of the seepage being pumped to the watercourse during the D&D process in making its final decision to include or exclude the TA-2-1 Groundwater Seepage from the permit.

10. In Part II, Section B of the proposed permit, the permittee is required to orally report certain permit violations to EPA within 24 hours of becoming aware of a problem and subsequently follow up with a written report within five days. SWQB requests EPA amend the requirement so that reports must also be made to the SWQB. SWQB recommends the following modification:

... shall be reported orally to EPA ... Texas, and the New Mexico Environment Department Surface Water Quality Bureau, Santa Fe, New Mexico, within 24 hours ... [added language].

11. Part II, Section H of the proposed permit states:

[t]his permit may be reopened and modified or revoked and reissued to reflect any applicable changes to the New Mexico Water Quality Standards.

In 1992, a Settlement Agreement was signed by the permittee and the Environment Department resolving the permittee's appeal of the NMED conditional certification of the previous NPDES permit. One of the key elements of the agreement stated, in part:

6. *[a] study shall be conducted for the purpose of identifying the stream uses associated with the watercourses in the canyons into which Petitioners [LANL] discharge waters subject to NPDES regulation. The study shall be prepared by a neutral third party ...;*

and

4. *[t]he 1992 NPDES permit shall contain a reopener clause to allow the permit to be modified, as required, under the following circumstances: (A) to reflect any applicable changes to the New Mexico Water Quality Standards; (B) to impose new or additional permit limitations as allowed by law or regulation that arise as a result of the information obtained from the study*

The referenced study was initiated and data collected by a mutually agreed upon third party, the U.S. Fish and Wildlife Service. At this time, the study has not been finalized in regard to the final report. A report is still expected at a later date. Although the Settlement Agreement specifically refers to the 1992 permit, SWQB believes it is appropriate to continue with the intent of the Settlement Agreement. Therefore SWQB wishes to advise EPA of the possibility that changes to water quality standards applicable to the LANL may be proposed and adopted during the term of this permit.

SWQB also requests, modification of the reopener clause to accommodate the previous agreement between the permittee and the Environment Department.

12. The proposed effluent limitations for outfall 051 specify a limitation of 446-minutes for "*pH Range excursions (Continuous Monitoring Monthly Total), Monthly Total Accumulated Time in Minutes.*" Based on conversation with the permit writer (G. Saums SWQB / S. Wilson EPA 3/28/00) it is SWQB's understanding that the 446-minute limitation is based upon EPA guidelines for continuous discharges with continuous pH monitoring. Outfall 051 is not a continuous discharge; rather it is an intermittent batch style discharge. Thus, the 446-minute limitation could allow a disproportionate amount of time for excursion depending on the number of minutes the discharge actually occurs. NMED recommends EPA review the application of their guidance in this particular case. EPA should consider that due to the controlled "batch" nature of the discharge, pH (as well as any other regulated pollutant concentration) could be tested and adjusted prior to each release. Therefore, there should be no need for any allowable "momentary" excursion.



GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Surface Water Quality Bureau

Harold Runnels Building
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Santa Fe, New Mexico 87502
Telephone (505) 827-0187
Fax (505) 827-0160



PETER MAGGIORE
SECRETARY

PAUL R. RITZMA
DEPUTY SECRETARY

March 28, 2000

VIA FACSIMILE (202) 260-7185

William A. Telliard
Director, Analytical Methods Staff
(4303)
U. S. Environmental Protection Agency
Ariel Rios Bldg.
1200 Pennsylvania Ave, NW
Washington, D.C. 20460

Re: Request for recommendation to require use of EPA Method 1668A for the determination of PCBs in a National Pollutant Discharge Elimination System (NPDES) permit.

Dear Mr. Telliard:

This letter requests you provide recommendation to the EPA Region 6 NPDES Permits Branch that they specify the recently developed EPA method 1668, Revision A: *Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS* as the required method of analyses for monitoring required in an NPDES permit. Preliminary conversations between New Mexico Environment Department (NMED) staff and Mr. Dale Rushneck, author of the method, give us to understand you are in support of utilizing this methodology and are willing to consult with EPA Region 6 to this end.

The State of New Mexico is currently reviewing a proposed NPDES permit (NM0028355) developed by EPA Region 6 for the Los Alamos National Laboratory (LANL) operated jointly by the U.S. Department of Energy and the University of California. Polychlorinated biphenyl (PCB) monitoring was not included in the permit proposed by the EPA Region 6 Office. The Surface Water Quality Bureau (SWQB) will recommend PCB monitoring requirements be included in the final permit.

Since the permit was drafted, the New Mexico Water Quality Control Commission (WQCC) revised the State's water quality standards in accordance with Section 303 of the Clean Water Act. In their recent revisions, the WQCC adopted a new numeric water quality standard of 0.014 µg/L Total PCBs for the protection of wildlife habitat [20 NMAC 6.1.3100.L]. The SWQB, per Section 401 of the Clean Water Act and State law, needs to ensure the proposed permit is protective of State standards.

Effluent data reported by LANL in their NPDES permit application do not currently indicate levels of PCB contamination that would be a problem. However, the SWQB is concerned this may be an artifact of reliance upon older, less sensitive analytical methods which are approved under 40 CFR 136 and reporting requirements set by the Region. PCB concentrations reported by the LANL in their permit application are typically "less than 1 µg/L"; a value that meets current EPA Region 6 reporting requirements but does not adequately allow evaluation of this parameter for the protection of the new state standard. This is disturbing because while monitoring of effluents and storm water at the facility has shown "non-detect" for PCBs as Aroclors (MQL 1.0 µg/L) in water, suspended sediments (centrifuged

Mr. William A. Telliard
March 28, 2000
Page 2

and analyzed separately) have been shown to contain up to 6.33 ppm PCBs (sum of Aroclors 1254 & 1260). The recent strides in the analytical methodology, for which your office is primarily responsible, make it possible to determine the concentration of PCBs in water at the low part-per-trillion range using EPA method 1668A. Reliance on these methods would provide better opportunity to evaluate the true risks of discharges compared with the standards.

It is our understanding that this method has not undergone the extensive process required for formal EPA approval. In the past, we were constrained by language in our New Mexico Water Quality Standards to the use of only "EPA approved" methods. In its recent amendments to state water quality standards, the WQCC also approved changes allowing the use of "methods accepted by EPA" [20 NMAC 6.1.1106] as well as the "EPA Approved Methods."

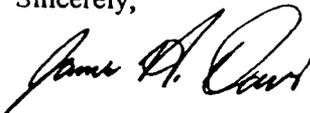
The SWQB believes, for the above reasons, specification of EPA Method 1668, Revision A: *Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS* for use in NPDES compliance monitoring and determination of compliance with New Mexico Water Quality Standards in this permit is appropriate. Additionally we recommend that each laboratory that uses this method will be required to perform all quality assurance/quality control procedures outlined in Method 1668A (EPA No. EPA-821-R-00-002, December 1999).

Since LANL is considered to be one of the Nation's premier scientific and engineering research facilities, imposition of these requirements would not be overly burdensome.

I am requesting that you respond to both EPA Region 6 (address below) and this office (address above) in writing explaining your confidence in this methodology and recommending its use in compliance monitoring.

If you have any questions, please contact me at (505) 827-0187.

Sincerely,



James H. Davis, Ph.D.
Bureau Chief

cc: Jack Ferguson, P.E. NPDES Permits Branch Chief, EPA Region 6
Scott Wilson, NPDES Permits Branch, EPA Region 6

U.S. Environmental Protection Agency Region 6
NPDES Permits Branch (6WQ-P)
1445 Ross Ave., Suite 1200
Dallas, Texas, 75202-2733
(214) 665-7511 voice (Mr. Wilson)
(214) 665-2191 fax

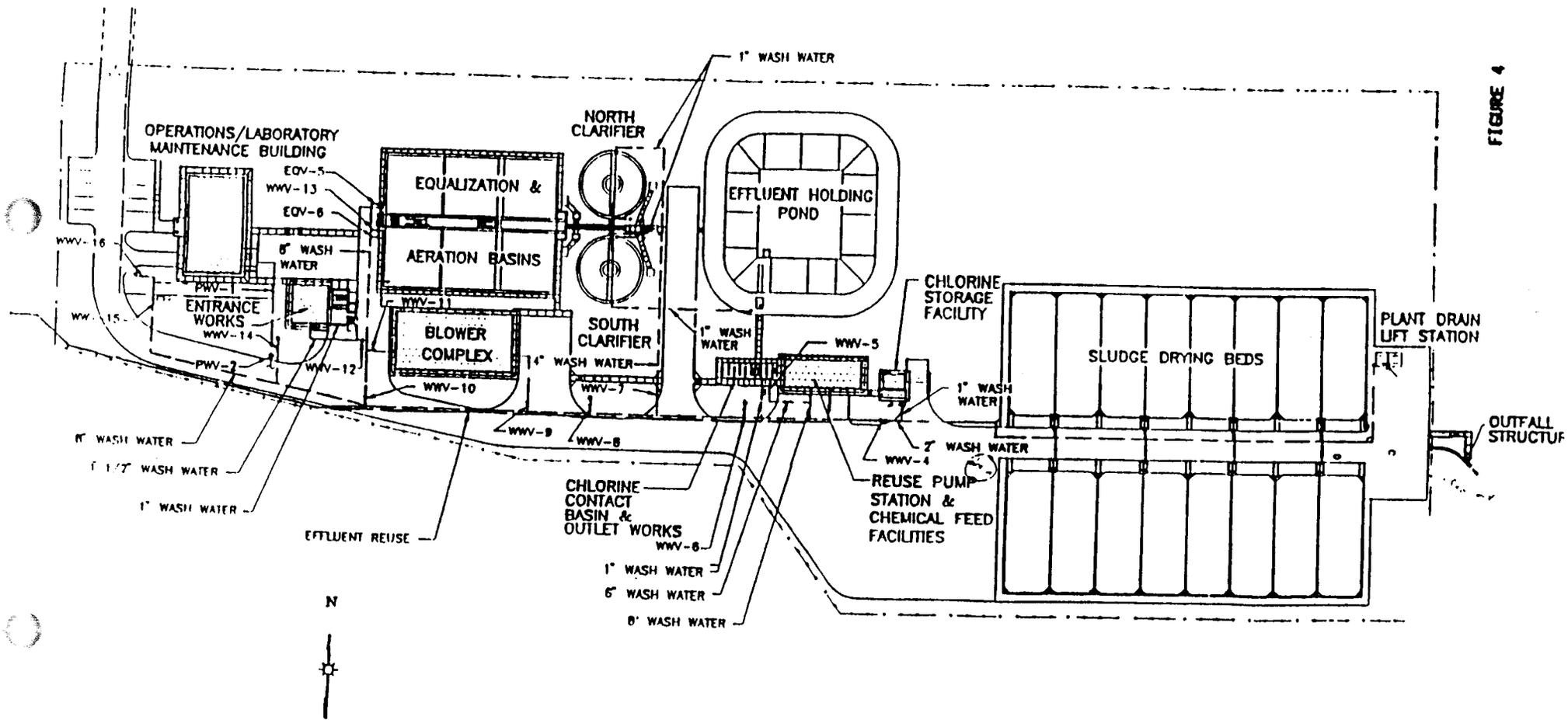
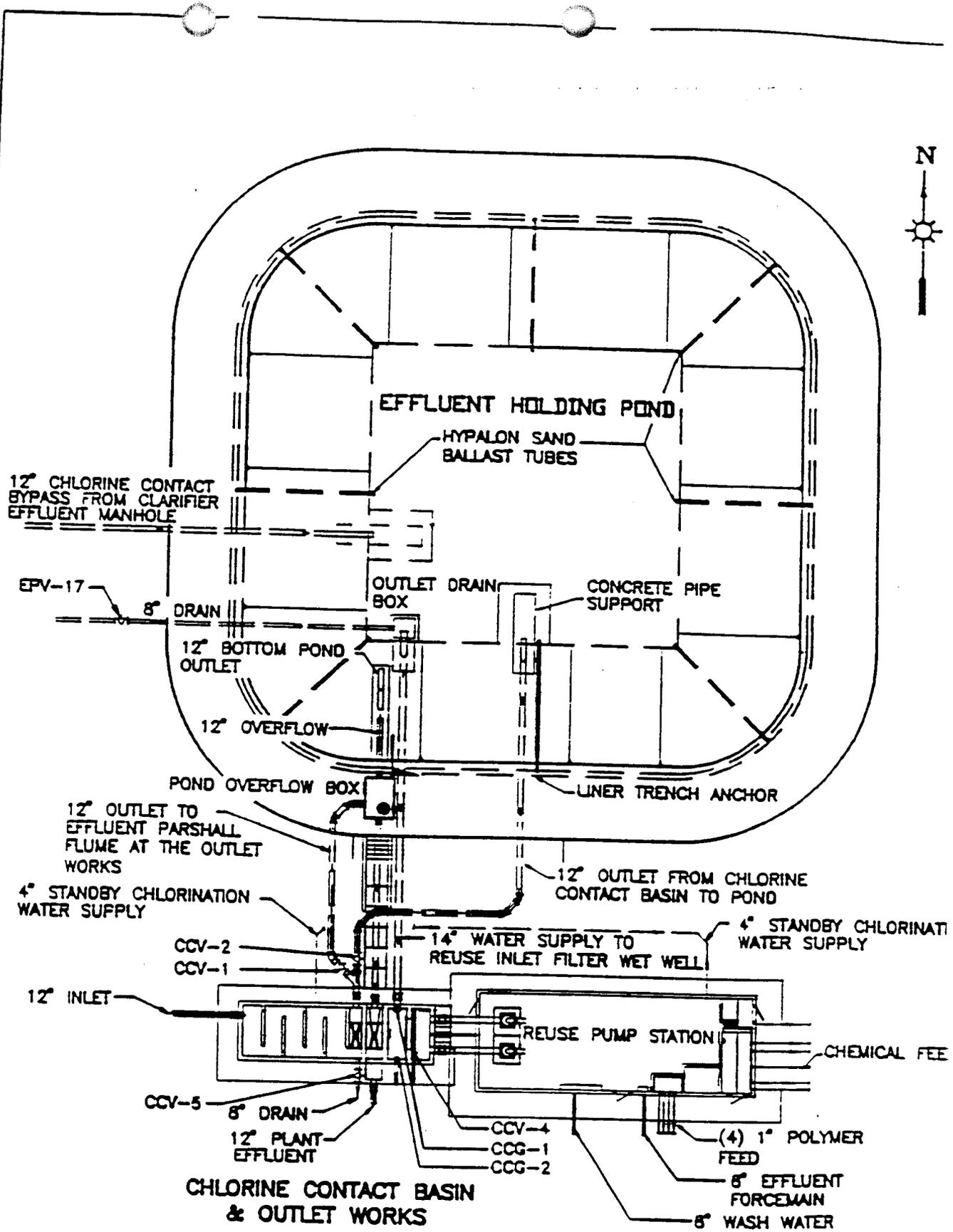


FIGURE 4



EFFLUENT HOLDING POND PLAN

FIGURE 5

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Tony Grieggs. ESH-19 MS K498 DATE: May 16, 1996

FROM: Bob Beers. ESH-18 *BB* MAIL STOP/TELEPHONE: K497/7-7969
Steven Rae. ESH-18 *St Rae* K497/5-1859

SYMBOL: ESH-18/WQ&H-96-0255

SUBJECT: **SUSPENSION OF LAND APPLICATION OF DRIED SANITARY SLUDGE
GENERATED PRIOR TO APRIL, 1995**

In accordance with verbal advice from Suzanne Moore-Mayne on May 14, 1996, and with your E-Mail of May 15, 1996, we requested that FSS-8 and JCI suspend land application of sanitary sludge on May 14, 1996, at approximately 1:00 p.m. We also advised those groups that grit screenings should not be disposed of until there is a resolution of the high value for PCB in the most recent (4/9/96) grit and screening sample.

The decision to suspend sludge land application was very conservative since the high PCB value was measured in an April 9, 1996, grit and screenings sample and all of the sludge presently scheduled for land application was generated *prior to April, 1995* (Hereafter, I will refer to this sludge as "stored sludge"). Furthermore, all sludge scheduled for land application is in full compliance with the standards established by Clean Water Act regulations (40 CFR Part 503). Sampling for PCBs in sludge has been conducted in 1995 and 1996 with no significant concentrations being shown (Please refer to Attachment 1 for PCB analysis of grit screenings, and sludge.). It is our understanding that the regulatory limit for PCBs for both landfill disposal and land application of sanitary treatment solids is 50 ppm. Please advise us our interpretation of the regulations is incorrect.

Additionally, it should be noted that the April 9, 1996, grit and screening sample is out of the range of all other sampling data for grit and screenings. Grit and screenings have been tested for PCBs seven times since 1994 and this most recent sample does not appear to be representative of grit and screenings which have been previously tested and disposed of. Therefore, we will collect confirmation samples from the batch of grit and screenings from which the April 9, 1996, sample was collected. For reference we are also sending under separate cover a copy of Administrative Procedure LANL-ESH-18-602, "Handling, Disposal and Reuse of Sanitary Treatment Solids", September, 1994.

We will recommend to FSS-8 and JCI that the land application suspension remain in place until ESH-19's concerns over the potential for PCB contamination of stored sludge are satisfied. In order document that the stored sludge is free from PCB contamination, we will test all sludge piles in storage and advise you of the results. If these results demonstrate that the stored sludge does not contain elevated concentrations of PCBs, then we will advise FSS-8 and JCI to resume land application with ESH-19's concurrence. Additionally, we have requested our contract laboratory, Assaigai Analytical Laboratories, to conduct both a QA/QC review of the April 9, 1996, analysis and a re-test of the original sample. In accordance with your suggestion, we will also initiate testing of the liquid influent and effluent for PCBs on a periodic basis. Please refer to the proposed PCB Sampling Plan for Sanitary Wastewater and Solids, Attachment 2.

Tony Grieggs
ESH-18/WQ&H-96-0255

- 2 -

May 16, 1996

In reference to your suggestion that ESH-18 sample materials from lift stations, please note that we currently do not have adequate resources to conduct such a study. However, we have included a request in the FY97 Indirect Budget Exercise for funding to monitor select manholes in the sanitary collection system in order to identify and eliminate non-complying waste streams. ESH-18 will continue to oversee compliance monitoring of wastewater and solids at the SWSC Plant. We hope that ESH-19 will continue to utilize your PCB Equipment Inventory, your PCB Survey data, and do field work to identify potential sources of PCB's at Laboratory facilities which could enter the sanitary wastewater system.

Please advise if further information would be helpful. We are available to meet with you to discuss the proposed sampling plan and efforts to identify potential sources of PCBs at your convenience.

RB:SR/em

Attach.: a/s

Cy: Jim White. ESH-19, w/att., MS K490
S. Moore-Mayne. ESH-19, w/att., MS K490
N. Williams. ESH-18, w/att., MS K497
M. Saladen. ESH-18, w/att., MS K497
E. Hoth. FSS-8, w/att., MS K718
M. Brown. JCI/JENV, w/att., MS A199
M. Talley, JCI/JENV, w/att., MS A199
C. Barnett. JCI, w/att., MS A199
R. Greuter. JCI, w/att., MS A199
H. Plum. DOE/LAAO, w/att., MS A316
K. Zamora. DOE/LAAO, w/att., MS A316
WQ&H File. w/att., MS K497

TA-46 SWSC Plant Grit and Screenings Analytical Results for PCBs
(mg/kg)

Sample #	Date	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
94.02831	02/16/94	< 2	< 2	< 2	< 2	< 2	2.6	< 2
94.03007	09/09/94	< 3.3	< 3.3	< 3.3	< 3.3	< 1.6	3.3	< 1.6
95.00401	04/12/95	< 0.33	< 0.67	< 0.33	< 0.33	< 0.33	0.66	< 0.33
96.00001	10/03/95	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	1.8	1.4
96.00002	10/03/95	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	1.3	0.78
96.00029	12/13/95	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.94
96.00068	04/09/96	< 6	< 6	< 6	< 6	< 6	< 6	130

TA-46 SWSC Plant Sludge Analytical Results for PCBs
(mg/kg)

Sample #	Date	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
95.00400	04/07/95		< 0.067	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033
96.00071	04/09/96	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	1.4	0.95

Proposed PCB Sampling Plan for the TA-46 SWSC Plant

LOCATION	MEDIUM	FREQUENCY	DURATION	SAMPLING INSTRUCTIONS	ANALYTES	COMMENTS
Influent Parshall Flume	Influent Wastewater	1/month	3 months	24 hr flow proportional composite	PCB's	
Chlorine Contact Chamber Parshall Flume (13S)	Effluent Wastewater	1/month	3 months	24 hr flow proportional composite	PCB's	
Asphalt Pad	Dried Sludge	1 time, each		1 composite sample/pile	PCB's	Only piles which haven't been previously sampled for PCB's
Sludge Beds	Dried Sludge	1 time, each		1 composite sample/bed	PCB's	Only beds which haven't been previously sampled for PCB's
Old Grit & Screenings Dumpster	Grit & Screenings	1 time		4 samples distributed vertically, top to bottom	PCB's	Old dumpster which had high PCB in 4/96/sample
New Grit Dumpster	Grit	1/month	3 months	1 composite sample from surface	PCB's	New separate dumpster for grit
New Screenings Dumpster	Screenings	1/month	3 months	1 composite sample from surface	PCB's	New separate dumpster for screenings



State of New Mexico
 ENVIRONMENT DEPARTMENT
 Surface Water Quality Bureau
 1190 St. Francis Dr., P.O. Box 26110
 Santa Fe, NM 87502
 (505) 827-0187

TELECOPIER TRANSMITTAL

DATE: March 28, 2000 **PAGE:** 1 OF 26 (Including Cover)

Please deliver the following:

To: William Hathaway, P.E.

Location: USEPA NPDES Permits (6WQ)

Telephone Number: 214.665.7101

Telecopier Number: 214.665.7373

From: *HS* Glenn E. Saums

Location: New Mexico Environment Dept., Surface Water Quality Bureau

Telephone Number: (505) 827-2827

Telecopier Number: (505) 827-0160

*sent to
 HS
 440 PM*

COMMENTS

State Certification of NPDES Permit NM0028355 - University of California / U.S. Dept. Of Energy -- Los Alamos National Laboratory

Original Sent via Federal Express to arrive at EPA on the morning of 3/29/00.

Please excuse the typographical error on the transmittal letter to Mr. Hathaway, the wrong permit number was mentioned. Instead of NM0020303 it should read NM0028355. I apologize for any inconvenience.