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NSB KINGS BAY
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LETTER REGARDING NAVY RESPONSES TO NOTICE OF DEFICIENCY ON HAZARDOUS
WASTE PERMIT APPLICATION NSB KINGS BAY GA
7/22/1998
NSB KINGS BAY



DEPARTMENT OF THE NAVY

NAVAL SUBMARINE BASE
1063 USS TENNESSEE AVENUE
KINGS BAY, GEORGIA 31547-2606

NSB Kings Bay Administrative Record
Document Index Number

31547-000
09.01.00.0133

IN REPLY REFER TO:

5090
Ser FE4/2040

22 JUL 1998

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Georgia Department of Natural Resources
Attn: Mr. Jim Ussery
Hazardous Waste Management Program
Environmental Protection Division
205 Butler street, S.E., Suite 1252
Atlanta, Georgia 30334

Dear Mr. Ussery:

This letter responds to the Notice of Deficiency (NOD) from your office dated June 24, 1998 regarding our Application dated April 23, 1998 to modify Hazardous Waste Facility Permit Number HW-014(S)(2).

Please remove the following pages from the permit application: vi, vii, A-1 through A-5, Appendix A-2 page A-2-1, B-3, B-4, C-1, C-2, C-13, C-14, D-1 through D-19, Appendix D-1, E-1 through E-4, and K-1 through K-4, and insert attached pages vi, vii, A-1 through A-6, Appendix A-2 page A-2-1, B-3, B-4, C-1, C-2, C-13, C-14, D-1 through D-19, Appendix D-1, E-1 through E-5, K-1 through K-5, Appendix K-2, and Figure D-6.1 (Map Pocket). All the deficiencies cited in the NOD are corrected in these new pages. Enclosure (1) is a summary of the changes that were made.

If you have any questions regarding this letter, please contact me, at (912) 673-2001, extension 4048. Please forward all correspondence to "Commanding Officer, SUBASE Kings Bay, 1063 USS Tennessee Avenue, Kings Bay, Georgia 31547-2606."

Sincerely,

JOHN R. GARNER
Leader, Environmental Division
Facilities and Environmental
By direction of the
Commanding Officer

Enclosure (1) Summary of deficiencies and corrective action from permit application

Copy to: (w/o encl)
SOUTHNAVFACENGCOM (Anthony Robinson)
COMNAVBASE (Dominique Broadus)
BECHTEL (Herman Bauer)
USGS (Chris Leeth)

FE4/2040

Georgia Department of Natural Resources

205 Butler Street, Suite 1154, East Tower, Atlanta, Georgia 30334-4910

Lonice C. Barrett, Commissioner
Environmental Protection Division

Harold F. Reheis, Director
Hazardous Waste Management Branch
Phone 404-656-2833, FAX 404-651-9425

June 24, 1998

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Z 067 730 172

Commanding Officer
Naval Submarine Base
1063 USS Tennessee Avenue
Kings Bay, GA 31547-2606

Re: Notice of Deficiency
Request to modify Hazardous Waste Facility Permit

Dear Sir:

We have completed our review of your April 23, 1998, application to modify your Hazardous Waste Facility Permit, Number HW-014(S)(2). Certain deficiencies have been noted which require correction before our review can proceed.

The following deficiencies were noted in the application itself:

1. Part A application, page 2: the Process Code for the Open Burning/Open Detonation (OB/OD) unit should be "X01" instead of "T04." Further, please consult with the Explosive Ordnance Disposal unit to verify that the requested limits, 0.721 pounds per hour, are realistic. Your current Permit allows treatment of 4,150 pounds per day Net Explosive Weight (4,000 by open burning and 150 by open detonation), a much higher limit.
2. Sections D.2.1 and D.2.2, pages D-11 through D-17: please check and revise as necessary to reflect current practice. Figure D-6 needs to be revised to depict the device currently used for open burning.
3. Section E, page E-1: the references to groundwater monitoring at the OB/OD unit should be revised to reflect the current plans to install wells at that unit.
4. Section E.2.4 Sample Analysis, page E-4: it is EPD's understanding that soil samples taken at the OB/OD unit will be analyzed for metals and for trinitrotoluene (TNT) and RDX, the latter in consideration for discontinuing the U. S. Bureau of Mines tests. The analytical procedure for TNT and RDX, EPA Method 8330, simultaneously provides results for TNT products as well as many other energetics. Please add these analyses to the protocol and Table E-1. In addition, please check Table E-1: the holding times and container sizes stated do not appear to correspond to SW-846 requirements, and the format of the table makes its interpretation difficult.
5. Section K.1 Description of Solid Waste Management Units, page K-3: the description for Site 11, the Old Camden County Landfill, states that "... 500,00 cubic yards ..." of materials were placed there. Please check this volume number and correct as appropriate.

6. Section K.1, p. K-4: the description of SWMU 1, the Boat Paint Kitchen at Refit #2, has some awkward wording. It is unlikely that the wastes removed were literally disposed "through" the on-base Hazardous Waste Collection personnel. Were these wastes perhaps disposed "by" these personnel?

The following deficiencies were noted in Appendix K-2, the Corrective Action Plan:

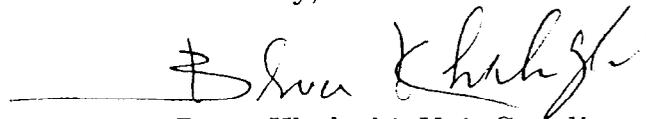
7. Section 3.1, Identification of Remedial Technologies: Subase must address risk management for residents of the areas impacted by the Old Camden County Landfill. Specifically, procedures must be developed to prevent use of contaminated groundwater for irrigation or other purposes which could subject the residents to possible exposure. There are many possible solutions: for example, Subase could provide irrigation meter taps onto the existing municipal system. The procedures need only be in effect until offsite contamination is mitigated. This concern could be addressed at the end of paragraph 2 of Section 3.1. This paragraph discusses the expectation that monitored natural attenuation will be the remedial methodology for the subdivision. It would be appropriate to also address risk management methods here.
8. Section 3.1.1.4, Chemical Oxidation: It has been brought to EPD's attention that the effectiveness of in-situ chemical oxidation using Fenton's Chemistry is sometimes equivocal due to the dilution of contaminants by the treatment chemicals. The middle sentence of the second paragraph states that effectiveness will be determined based on "samples collected at the site." It may be necessary that you measure mass destruction of contaminants and not merely concentrations. Please reword this section to address this concern. In addition, concerns raised and discussed at the Subase Team Meeting on June 16, 1998, such as the nonspecificity of the reaction and resulting uncertainty about destructive efficiency in organic-rich sediments should be aired in the screening of alternatives. It should be mentioned that a pilot-scale demonstration is necessary. This will make the level of discussion of this alternative equal to that presented for recirculation wells and permeable reactive walls.
9. Section 3.1.4.1, Spray Irrigation. This section discusses the permit requirements for disposal of wastewater under the Clean Water Act. Because this is a RCRA document, the text should make it very clear that this is not a RCRA land disposal permit, which has entirely different implications.
10. Section 3.1.4.3, Infiltration Gallery. The same comment as immediately above applies to this section as well. In addition, the regulatory citation contains a colon, which should be replaced with a period.
11. Section 4.4.2, Evaluation (Short- and Long-Term Effectiveness). This section should address the same concerns about the effectiveness of the technology relating to dilution, excess organic matter etc. that will be added to Section 3.1.1.4.
12. Section 7.0, Contingencies and Exit Strategy Based Upon Long Term Monitoring Results. This Section needs editing. The first section of four bullets should be

split into two paragraphs. This first section, dealing with contingencies arising from effectiveness of the remedial action, should begin with sentences 3 and 4 from the introductory paragraph and should contain bullets 1 and 2. The second paragraph, concerning monitoring contingencies, should begin with sentences 1 and 2 of the introductory paragraph and should contain bullets 3 and 4. In addition, the two "monitoring" bullets should be revised to be more general. Because no monitoring plan/schedule has yet been proposed, for instance, specific numbers of sampling events have no meaning. These bullets should simply convey the idea that sample results will be used to decide duration of active remediation efforts and frequency of sampling.

13. Section 7.0, Contingencies and Exit Strategy...: The introductory sentence for this section should make it clear to the reader that only the active portions of the remedy are being discontinued. Monitoring activities and monitored natural attenuation compose a part of the remediation and could conceivably continue after in-situ and ex-situ treatment activities are discontinued.
14. Section 7.0, Contingencies and Exit Strategy...: The exit strategy is based on target levels of 100 micrograms per liter ($\mu\text{g/l}$) of individual constituents at various locations. The USGS report, included in the Corrective Action Plan as Appendix A, states on p. 14 that "...total chlorinated ethene concentrations must be lowered below 100 $\mu\text{g/l}$ at the source area..." before natural attenuation can be relied upon to be protective. Please reconcile these statements, or provide explanation of how the individual constituent approach meets the boundary conditions for natural attenuation.

Please provide, within thirty days of receipt of this Notice, replacement pages addressing these deficiencies. Thank you for your continuing interest in Georgia's environment. If you have questions or comments, please contact Billy Hendricks or Madeleine Kellam at 404-656-2833.

Sincerely,



Bruce Khaleghi, Unit Coordinator
Hazardous Waste Management Branch

The NOD deficiencies, identified in GADNR ltr of 24 June 1998, have been corrected by SUBASE Kings Bay as follows:

No.	Deficiency Description	Correction Description	Part A Application Pages Affected
1	Change OB/OD process code from "T04" to "X01". Verify EOD limits are realistic.	Process code changed. Limits recalculated and revised to be 4000 lbs/day (2.0 tons/day) OB and 1200 lbs/day (0.6 tons/day) OD.	Pg 2, A-4
2	Update description of OB/OD operations to reflect current practice of using burn box. Revise figure of buning device.	Revised description of OB ops by replacing all reference to "burn pad or burn drum" with "burn box" information. Replaced figure of burn drum with figure of burn box and provided burn box fab dwgs.	Section D (pgs D-1 through D-19),
3	OB/OD unit groundwater monitoring information needs to be revised to include monitoring wells.	Revised description of OB/OD unit environmental monitoring to include groundwater monitoring via four wells (GW monitoring previously not required).	Section E, pgs E-1 through E-5
4	Add requirement to analyze OB/OD range soil for TNT and RDX in consideration for discontinuing US Bureau of Mines Explosive reactivity testing. Revise table giving sample holding times and container size consistent with SW-846 requirements.	Added TNT and RDX test rquirements for OB/OD range soil. Added wording to collect samples IAW SW-846. Deleted table because sampling information redundant and inconsistent.	Pg E-2
N/A	Various pages of application contained outdated information.	Made editorial and administrative changes to update various pages.	Pgs vii, A-1, A-2, A-3, A-5, A-6, A-2-1, B-3, C-1, C-2, C-13, C-14,
5	Section K.1 Description of Solid Waste Management Units, page K-3: the description for site 11, the Old Camden County Landfill, states that ". . . . 500,00 cubic yards . . ." of materials were placed there. Please check this volume number and correct as appropriate.	Page K-3 was changed to reflect that . . . "500,000 cubic yards" of materials were placed there.	Page K-3

6	<p>Section K.1, p. K-4: the description of SWMU 1, the Boat Paint Kitchen at Refit #2, has some awkward wording. It is unlikely that the wastes removed were literally disposed "through" the on-base Hazardous Waste Collection personnel. Were these wastes perhaps disposed "by" these personnel?</p>	<p>Page K-4 was changed to reflect that SWMU 1 wastes removed were disposed "by" the on-base Hazardous Waste Collection Personnel.</p>	<p>Page K-4</p>
7	<p>Section 3.1, Identification of Remedial Technologies: Subbase must address risk management for residents of the areas impacted by the Old Camden County Landfill. Specifically, procedures must be developed to prevent use of contaminated groundwater for irrigation or other purposes which could subject the residents to possible exposure. There are many possible solutions: for example, Subbase could provide irrigation meter taps onto the existing municipal system. The procedures need only be in effect until offsite contamination is mitigated. This concern could be addressed at the end of paragraph 2 of Section 3.1. This paragraph discusses the expectation that monitored natural attenuation will be the remedial methodology for the subdivision. It would be appropriate to also address risk management methods here.</p>	<p>Sampling of selected irrigation wells was conducted in June 1998 to determine which (if any) of the irrigation wells had been impacted by the on-site contamination. The results from the sampling event are provided in Table 2-2. Risk management for the subdivision is addressed in paragraph 2 of Section 3.1; Table 3-1; and in added Section 3.1.5. Risk management was also added as a component of alternatives 2, 3, and 4, which are discussed in section 4.</p>	<p>Section 3.1, Table 3-1, and Section 3.1.5 of Appendix K-2.</p>

8	<p>Section 3.1.1.4, Chemical Oxidation: It has been brought to EPD's attention that the effectiveness of in-situ chemical oxidation using Fenton's Chemistry is sometimes equivocal due to the dilution of contaminants by the treatment chemicals. The middle sentence of the second paragraph states that effectiveness will be determined based on "samples collected at the site." It may be necessary that you measure mass destruction of contaminants and not merely concentrations. Please reword this section to address this concern. In addition, concerns raised and discussed at the Subase Team Meeting on June 16, 1998, such as the nonspecificity of the reaction and resulting uncertainty about destructive efficiency in organic-rich sediments should be aired in the screening of alternatives. It should be mentioned that a pilot-scale demonstration is necessary. This will make the level of discussion of this alternative equal to that presented for recirculation wells and permeable reactive walls.</p>	<p>It is stated in Section 3.1.4 that the pre- and post- chemical oxidation deployment analytical results for the contaminants of concern would be utilized to calculate the overall contaminant mass destruction. This is repeated in section 4.4.2 in the evaluation of the reduction in mass, toxicity, mobility, or volume of the alternative. It is stated in Section 3.1.4 that an unknown quantity of organic compounds (in addition to the contaminants of concern) are present in the area targeted for treatment. Section 3.1.4 also states that because the Fenton's reaction is nonspecific concerning which organic compounds it will oxidize, a field demonstration would be required prior to full-scale deployment to determine specific design parameters such as injection volumes.</p>	<p>Section 3.1.1.4 of Appendix K-2.</p>
9	<p>Section 3.1.4.1, Spray Irrigation. This section discusses the permit requirements for disposal of wastewater under the Clean Water Act. Because this is a RCRA document, the text should make it very clear that this is not a RCRA land disposal permit, which has entirely different implications.</p>	<p>It is noted in section 3.1.4.1 that this alternative would <u>not</u> require a RCRA land disposal permit.</p>	<p>Section 3.1.4.1 of Appendix K-2.</p>
10	<p>Section 3.1.4.3, Infiltration Gallery. The same comment as immediately above applies to this section as well. In addition, the regulatory citation contains a colon, which should be replaced with a period.</p>	<p>It is noted in Section 3.1.4.3 that this alternative would <u>not</u> require a RCRA land disposal permit. The colon in the regulatory citation was replaced with a period.</p>	<p>Section 3.1.4.3 of Appendix K-2.</p>

11	Section 4.4.2, Evaluation (Short- and Long-Term Effectiveness). This section should address the same concerns about the effectiveness of the technology relating to dilution, excess organic matter etc. that will be added to Section 3.1.1.4.	These concerns are addressed in Section 4.4.2, Evaluation (Reduction in Toxicity, Mobility, or Volume).	Section 4.4.2 of Appendix K-2.
12	Section 7.0, Contingencies and Exit Strategy Based Upon Long Term Monitoring Results. This Section needs editing. The first section of four bullets should be split into two paragraphs. This first section, dealing with contingencies arising from effectiveness of the remedial action, should begin with sentences 3 and 4 from the introductory paragraph and should contain bullets 1 and 2. The second paragraph, concerning monitoring contingencies, should begin with sentences 1 and 2 of the introductory paragraph and should contain bullets 3 and 4. In addition, the two "monitoring" bullets should be revised to be more general. Because no monitoring plan/schedule has yet been proposed, for instance, specific numbers of sampling events have no meaning. These bullets should simply convey the idea that sample results will be used to decide duration of active remediation efforts and frequency of sampling.	The Section has been revised. The format of the revised section is not exactly as requested, however, concurrence from GEPD was obtained via telephone for the exceptions. The first paragraph discusses the contingencies to be applied to the remediation system operation, based upon long-term monitoring results. All references to specific details, such as number of sampling events, have been deleted.	Section 7.0 of Appendix K-2.
13	Section 7.0, Contingencies and Exit Strategy...: The introductory sentence for this section should make it clear to the reader that only the active portions of the remedy are being discontinued. Monitoring activities and monitored natural attenuation compose a part of the remediation and could conceivably continue after in-situ and ex-situ treatment activities are discontinued.	It is noted in the last sentence of Section 7.0 that monitored natural attenuation may continue at the site, subsequent to the deactivation of the groundwater extraction/ex-situ UV oxidation system. Placing the sentence at the end of the section required less wording, and concurrence from GEPD was obtained via telephone for the exception.	Section 7.0 of Appendix K-2.

14	<p>Section 7.0, Contingencies and Exit Strategy...: The exit strategy is based on target levels of 100 micrograms per liter ($\mu\text{g}/\text{l}$) of individual constituents at various locations. The USGS report, included in the Corrective Action Plan as Appendix A, states on p. 14 that "... total chlorinated ethene concentrations must be lowered below 100 $\mu\text{g}/\text{l}$ at the source area..." before natural attenuation can be relied upon to be protective. Please reconcile these statements, or provide explanation of how the individual constituent approach meets the boundary conditions for natural attenuation.</p>	<p>The condition: "or greater than 100$\mu\text{g}/\text{L}$ total chlorinated ethenes." has been added to each criteria, which reconciles the statements in the CAP and the USGS report.</p>	<p>Section 7.0 of Appendix K-2.</p>
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