Halliburton NUS
CORPORATION

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C-49-09-4-039

September 6, 1994

Project Number 2923

Mr. Tim Bramhall
Northern Division (Code 405)
Naval Facilities Engineering Command
Mail Stop 82
10 Industrial Highway
Lester, PA 19113-2090

Reference: CLEAN Contract N62472-90-D-1298
Contract Task Order No. 192

Subject: Response to Comments on Draft Remedial Design Documents
UST Removal Action - Waste Oil Tank #5
Naval Submarine Base New London, Groton, Connecticut

Dear Mr. Bramhall:

Following are responses to the comments received by Halliburton NUS on August 31, 1994 regarding the referenced draft remedial design documents, including Technical Specifications, Construction Drawings, and Design Analysis.

A recurring theme in many of the Navy's comments is that the Technical Specifications and Construction Drawings do not always define the methods to be used for the UST Removal Action at Waste Oil Tank #5 (OT5) to the same extent of detail as presented in the Design Analysis and, in many cases, such as the required extent of excavation and tank roof demolition and the method of tank cleaning, leave a choice of options to the Removal Action Contractor. The reason for this difference is that the Technical Specifications and Construction Drawings are performance-based as requested in the Navy's Statement of Work for this CTO whereas the Design Analysis reflects the specific approach recommended by Halliburton NUS and upon which the Cost Estimate is based.

COMMENTS FROM NORTHDIV CIVIL DESIGN

1. Drawing T-1:

   Comment: No scale is indicated on this drawing.

   Response: A scale will be added to Drawing T-1.

2. Drawing T-1:

   Comment: Indicate name of the gate the contractor's vehicles are to use to come on the base.

Response: The gate which the contractor's vehicles have to use to come in and out of the base will be indicated on Drawing T-1 as the "Contractors' Gate".

3. Drawing C-1:

Comment: Note 5 indicates the contractor is to relocate and maintain a "6" line". What type of "line" is this? (water, sewer, etc..) What material is this line? Is it a high-pressure line? Is it gravity? How often is it used? What is the quantity of the flow? etc..

Response: Construction Drawings for the previous OT5 closure effort did not provide any other information besides the size of that line. SUBASE NLON has been contacted to provide the required information and that information will be added as a note on Drawing C-1.

4. Drawing C-1:

Comment: Does the "soil berm" extend over the tank?. The limit of this berm is not clear.

Response: According to SUBASE NLON personnel (communications of 09/06/94 and 09/06/94 between Lt. Pat Rios and Jean-Luc Glorieux), the "soil berm" has been removed during the previous OT5 closure effort. Drawing C-1 will be modified accordingly.

5. Drawing C-1:

Comment: The tank elevation on this sheet, the Design Analysis, and numerous places in the Technical Specifications indicates the tank has 4'-0" of soil cover. The plan does **not** indicate this. The plan indicates the north edge of the tank has 5' more cover than the south edge. If the plan is correct, all references to 4' of cover must be changed and the calculations for soil to be removed must be redone.

Response: Depth of soil cover is indeed up to about 4.5 more feet (grade elevation 27.0 Ft vs. 22.5 Ft elsewhere over OT5) over a 1,200 square feet segment at the northern edge of OT5 near the steam trench along Tang Avenue. This increases the estimated quantity of soil to be excavated by about 100 cubic yards. The excavation volume calculations in Appendix B of the Design Analysis will be corrected accordingly as well as the volume estimates indicated in Section 4.1 of the same document and in the Cost Estimate.

6. Drawing C-1:

Comment: If there is an additional 5' of cover on the north edge, "sloping" the soil during excavation is not acceptable because it would undermine the steam trench. Shoring and sheeting will be required.

Response: Shoring will be required along the northern edge of OT5 near the steam trench only if the contractor follows the same approach as recommended in the Design Analysis, i.e. excavate and remove all of the soil above OT5 and demolish the tank roof to provide unimpeded access to its inside. Section 02220, paragraph 3.2.1 requires the contractor to provide shoring as required and paragraphs 1.3.1. and 1.3.2. of the same section require that shoring design data be submitted. Shoring calculations and sketches will be added as a new appendix to the Design Analysis and Section 4.1 of this document will be modified to discuss the need for excavation shoring. Halliburton NUS recommends that a 70-foot length of 44-feet deep sheet piling be used for excavation shoring immediately south of and along the steam trench where it is closest to OT5.

7. Drawing C-1:

   Comment: Note 6 says disturbed turf is to be replaced. The plan must indicate what areas are paved and what areas are turf. Paved areas should be shown as asphalt or concrete.

   Response: The entire OT5 area is turf covered, except the asphalt-paved roads (Sculpin Avenue, Tang Avenue) and the Truck Dumping Pad. A note will be made of this on Drawing C-1.

8. Drawing C-1:

   Comment: Neither this drawing nor the Technical Specification tell the contractor not to remove the Truck Dumping Pad as indicated by the Design Analysis.

   Response: A note will be added to Drawing C-1 and language added to Section 02050, paragraph 1.8.2, of the Technical Specifications to make this clear.

9. Technical Specifications, General:

   Comment: Eliminate section table of contents and reference verification sheet in every section.

   Response: The sections table of contents and reference verification sheet will be eliminated. These were kept in the draft Technical Specifications only to facilitate the review process.

10. Section 01010:

    Comment: Paragraph 1.6 is not correct.The main contaminant at the site is oily sludge not PCBs. Change to "oily sludge contaminated with PCBs".

    Response: Paragraph 1.6 will be corrected as requested.

11. Section 02050, paragraphs 2.1.1 and 2.1.2:

    Comment: Where are these materials used?

    Response: Asphalt and grout will not be used. Paragraphs 2.1.1 and 2.1.2 will be deleted.

12. Section 2050, paragraph 3.1.3:

    Comment: What concrete or asphaltic paving must be sawcut? this not "indicated".

    Response: Initially it had been anticipated that the paving around the Truck Dumping Pad would be sawcut and removed. However, this is no longer the case as the Truck Dumping Pad will be left in place. Paragraph 3.1.3 will be deleted.

13. Section 2050, paragraph 3.2:

    Comment: Calls for filling of open basements. Where?

    Response: No open will be filled. These words will be deleted.

14. Section 2050, paragraph 3.3.4:

Comment: Calls for disposal of refrigerants. Where?

Response: This paragraph was included in the typical specification provided by the Navy to Halliburton NUS and it was believed to be a standard paragraph, whether refrigerants are included in the items to be demolished and removed or not. For this project, no refrigerants will need to be disposed of and Paragraph 3.3.4 will be deleted.

15. Section 02095, paragraph 1.5.c:

Comment: Delete the word may. Tests show the sludge does exceed 500 ppm of PCBs.

Response: The word may is used to denote that not all the OT5 sludge exceeds 500 mg/kg PCBs. Out of five sludge samples previously analyzed for PCBs, only one showed a concentration in excess of 500 mg/kg (650 mg/kg). The other four ranged from 36 mg/kg to 474 mg/kg.

16. Section 02095, paragraph 3.1.5.g:

Comment: This paragraph refers to the "bilge water dumping trough". This is not shown on the Construction Drawings.

Response: The "bilge water dumping trough" is the same as the Truck Dumping Pad. This designation will be standardized.

17. Section 02096, paragraph 3.7:

Comment: This may not be possible with the steam trench at the north end of the site.

Response: See response to Comment No. 6 above. Shoring will be mentioned in addition to sloping in this paragraph.

18. Section 02220, paragraph 1.6.b:

Comment: This paragraph says to temporarily store the soil on site. Where? This is not shown on the drawing.

Response: Language will be added to paragraph 1.3.3 of this section to specify that the contractor submit an Excavation Work Plan indicating the location for the temporary storage location of excavated soil, subject to approval by the Navy.

19. Section 02220:

Comment: Be more specific. Will the tank be filled with common fill or backfill? Also give the compaction required inside the tank.

Response: OT5 will be backfilled with soil previously excavated and backfill as defined in paragraph 2.1.2 of this section. Paragraphs 2.1.1 and 3.4.1 of this section, referring to common fill, will be deleted. The compaction required inside OT5 is the same as that specified for general site compaction in paragraph 3.6.1 of this section (85 percent of ASTM D 1157). Paragraph 3.6.1 will be modified to reflect this.

20. Section 13219:

Comment: The Design Analysis says to use Capsur for cleaning. The Technical Specifications has many references to blasting materials but also references to detergents and solvents. What method is to be used or is the contractor allowed to choose? This must be made more clear.

Response: The Technical Specifications are performance-based, meaning that for a number of items, such as tank cleaning, the contractor is expected to select his preferred approach, subject to approval by the Navy. The Design Analysis presents Halliburton NUS' recommended approach, i.e., in this instance the use of Capsur for tank cleaning.

OTHER COMMENTS BY NORTHDIV (Comments by LFR and ME)

1. General (Comment by LFR):

Comment: It is unclear how the treated wastewater will be handled. (a) how often will the treated wastewater be sampled? (b) what sampling technique will be employed (i.e., grab, intermittent, etc..)? (c) how will the contractor ensure all discharge parameters are met? (d) will the treated water be recycled through the system until the parameters are met? (e) will the treated water be discharged to a storage tank or will it go directly to the sewer system?

Response: Items (a) through (d): As mentioned earlier the Technical Specifications are performance-based and the contractor is to prepare a Water Treatment Plan as specified in Section 02095, paragraph 1.3.1.3. This Water Treatment Plan will provide a detailed description of the groundwater treatment system, including its operation and the monitoring of its performance. The groundwater treatment system recommended by Halliburton NUS, subject to confirmation of groundwater quality, is described in Section 4.4 of the Design Analysis. Halliburton NUS recommends that daily composite samples of the influent and effluent to the groundwater treatment system be collected and analyzed for oil & grease and total suspended solids (TSS) and that, once a week, the daily composite samples be also analyzed for volatile organic compounds (VOCs). These recommendations will be added to Section 4.4 of the Design Analysis. Halliburton NUS does not recommend that treated water be recycled or stored prior to discharge. Due to analytical turnaround time, the required water storage capacity would be very large (about 400,000 gallons even with 24-hour analytical turnaround) and the probability of a properly designed and operated treatment system not meeting discharge standards is low enough that it cannot justify this added cost.

Item (e): The treated water will be discharged to the Thames River not to the sewer.

2. General (Comment by ME):

Comment: Since project is within an "area of concern" identified in the EPA for SUBASE, the EPA Region I must be included in this review process. Please copy the following EPA POC:

Christine Williams/Kymberlee Keckler
Federal Facilities Section
U.S. Environmental Protection Agency, Region I
JFK Building, Boston, Massachusetts 02203-2211
Telephone: (617) 573-5736

Response: Halliburton NUS was planning to submit the final version of the design documents (Technical Specifications, Design Drawings, Design Analysis) for review and approval by U.S. EPA Region I and CTDEP after review and approval of the draft version of these documents by the Navy. Please advise if the draft design documents are to be submitted to the regulatory agencies as well.

OTHER COMMENTS BY NORTHDIV (Comments by BJH)

1. Section 02095, paragraph 3.1.2.d:

   Comment: Why limit the speed of waste removal? The cost of storing waste on-site may be more than offset by the reduction in dewatering period.

   Response: The idea behind limiting the speed of removal of sludge and debris from the bottom of OT5 and preventing the temporary on-site storage of these wastes is to avoid repeating the current situation at OT5 where several containers (frac tanks and roll-off containers) have been used for temporary on-site storage of sludge and now need to be decontaminated at significant expense to the Navy. As can be seen from the proposed project schedule shown on Figure 5-1 in the Design Analysis, groundwater treatment duration could be shortened by 17 days by speeding-up the removal and disposal rate of the sludge and debris to the extent that this activity would be completed at the same time as, or before, the cleaning of OT5. At a flow of 267 gpm, this would translate in 6,536,000 less gallons of water to be treated which, at the unit cost of $20 per 1,000 gallons, would represent a potential savings of about $131,000. However, with this approach, containers will need to be used to temporarily store the sludge and debris. The cost of decontaminating these containers should be close to the $132,000 currently being incurred as part of CTO 129 (Task 10) for the decontamination of two frac tanks and two roll-off containers, thus wiping-out the water treatment cost savings.

   Halliburton NUS suggests that this paragraph be deleted and that the decision to temporarily store sludge or not be left to the contractor.

2. Section 02096:

   Comment: OT5 is within a CERCLA site. Is this section adequate?

   Response: This section is adequate as it requires the contractor to satisfy all the requirements of OSHA 1910.120 for operation at hazardous waste sites. Section 02096 was added to the Technical Specifications by Halliburton NUS to complement the health and safety provisions of Section 01010, paragraph 1.10 which were considered insufficient.

3. Section 13219, paragraph 3.4.1:

   Comment: Debris and sludge were not hazardous waste in previous closure attempt. PCBs were the main concern.

   Response: As explained in Section 4.5 of the Design Analysis, previous analyses indicated that the OT5 sludge is sulfide-reactive and thus RCRA-hazardous. However, SUBASE NLON recently informed Halliburton NUS (communication of 09/02/94 between Lt. Pat Rios and Jean-Luc Glorieux) that further investigations have determined the sulfide content of the OT5 sludge is non-reactive. The OT5 sludge will thus only be identified and disposed of as a TSCA waste in regards to its PCB content. The text of Section 4.5 of the Design Analysis will therefore be modified to reflect this recent development.

COMMENTS FROM SUBASE NLON ENVIRONMENTAL DEPARTMENT

1. Design Analysis, page 17:

   Comment: The clean-up standard on page 17 is for spills. Is this standard satisfactory to CTDEP for tank closures?

   Response: The CTDEP has not been contacted to obtain their concurrence with the 10 μg/100 cm^2 PCBs clean-up standard presented in the Design Analysis and Technical Specifications. Although this standard is indeed that specified in 40 CFR 761.125 for the clean-up of PCBs spills rather than for tank decontamination, Halliburton NUS believes that it is the most appropriate goal for the decontamination of OT5's internal surfaces. The only other potentially applicable standard would be triple-rinsing as specified in 40 CFR 761.79. This, however, would require the use (and disposal) of at least 75,000 gallons (and possibly up to 225,000 gallons if recycling is not possible) of a cleaning agent capable of dissolving at least 5 percent of its weight in PCBs.

2. Groundwater Treatment:

   Comment: The clean-up standard for discharge to the Thames River will be more stringent than that of the sanitary sewer. The capacity of discharge to POTW is about 100,000 to 200,000 gal/day. Utilizing this alternative on top of discharge to the Thames River may save dollars in dewatering costs.

   Response: As discussed in Section 4.4 of the Design Analysis, discharge to the City of Groton sanitary sewer district was considered as an option. However, as also mentioned in Section 4.4, recent experience for the discharge of pumping test groundwater and of treated water during the previous OT5 closure effort have revealed that the City of Groton will only allow discharge of about 30,000 gal/day to their sanitary sewer system and that the effluent quality limitations were fairly tight, essentially requiring the same degree of treatment as for temporary surface discharge to the Thames River. Halliburton NUS believes that any slight savings in treatment costs would most likely be more than offset by the sewer discharge fee.

COMMENTS BY SUBASE NLON ROICC

1. Design Analysis, paragraph 4.2, page 13:

   Comment: second paragraph states that cement debris exceeding 10 μg/100 cm^2 PCB will have to be disposed of by incineration. No incinerator will receive or process this material. 40 CFR 761.60/75 allows landfilling of PCB material (> 500 ppm) if "solid". This material qualifies and could be shipped to a facility such as Chem Waste management Model City landfill (Model City, NY). This could render a cost savings. Incinerator $\approx$ \$1.75 per pound, landfill $\approx$ \$300 per ton.

   Response: This point is well taken. The Design Analysis and Cost Estimate will be modified to recommend the use of off-site TSCA landfilling as an alternate to decontamination for the debris contaminated with more than 10 μg/100 cm^2.

2. Design Analysis, Appendix G:

   Comment: Have we gotten appropriate clearances for using (specifying) a proprietary reagent (CAPSUR®)?

Response: No clearances have been obtained to date for the use of a proprietary tank cleaning agent since the choice of that agent will be up to the contractor. CAPSUR® is not specified in the Technical Specifications, only recommended by Halliburton NUS in the Design Analysis.

3. Section 02050, paragraph 3.3.2:

Comment: Has this clean-up standard been addressed with CTDEP? 10 μg/100 cm^2 is spill clean-up standard. However, has someone approached CTDEP and tried to sell them 100 μg/100 cm^2? This is the PCB equipment clean-up standard (40 CFR 761).

Response: See response to Comment No. 1 from SUBASE NLON Environmental Department. Halliburton NUS does not believe that the use of 100 μg/100 cm^2 instead of 10 μg/100 cm^2 would be defensible as a PCB clean-up goal. As specified in 40 CFR 761.125, the 100 μg/100 cm^2 PCB clean-up standard may only be used for outdoor low-contact surfaces which is not applicable to the inside of OT5. Also, if 100 μg/100 cm^2 is used as a clean-up goal, there would be need for encapsulation of the surfaces after cleaning, i.e., impervious coating (such as painting) of these surfaces.

4. Section 02095, paragraph 1.3.1:

Comment: "Records": contractor should provide wipe samples and certification of decontamination for any equipment (particularly rental) used on site.

Response: This requirement will be added to Section 02095.

5. Section 02095, paragraph 1.3.1.6.c:

Comment: paragraph is confusing. Obviously fixed by "cut and paste". Please reword last sentence.

Response: SUBASE NLON instructed Halliburton NUS to discard this comment (communication of 09/06/94 between Lt. Pat Rios and Jean-Luc Glorieux).

6. Section 02095, paragraph 1.3.1.6.c:

Comment: Throw in EPA/600/4-79-020, "Method for Chemical Analysis of Water and Wastes" or AWWA "Standard Methods" for OT5 wastewater characterization.

Response: Paragraph 1.3.1.6 only pertains to the characterization of the OT5 sludge and debris and contractor-generated waste which is to be done in accordance with EPA SW 846 rather EPA/600/4-79-020. However, reference to EPA/600/4-79-020 and its addendum EPA/600/4-84-017 will be added to paragraph 1.3.1.12 for the analysis of the treated and untreated tank water and groundwater.

7. Section 02095, paragraph 1.3.1.9, "Weigh Tickets":

Comment: Twenty-four hours may be too tight. Trip to APTUS takes about that long. Suggest you extend to 48/72 hours.

Response: the 24-hour time requirement specified in paragraph 1.3.1.9.a of this section pertains to the submission of the weigh tickets from the on-site portable truck scale provided by the contractor, not those from the off-site incineration and disposal facility. Paragraph 1.3.1.9.b specifies that the contractor must submit the weigh tickets from the off-site incineration and disposal facility within 10 days.

8. Section 02095, paragraph 1.3.1.12:

   Comment: May want to quote CTDEP Public Act 93-428 so they know what you mean.

   Response: A reference to Connecticut Public Act 93-428 will be added to this paragraph.

9. Section 02095, paragraph 1.5.h:

   Comment: "Tank" misspelled "Tnak".

   Response: This misspelling will be corrected.

10. Section 02095, paragraph 3.1.c:

    Comment: Can we have contractor provide an addendum or separate plan for spill prevention and countermeasures that is consistent with Base SPCC plan? We will be handling a large quantities of liquid wastes so this could prove important from compliance standpoint and consistency with Base plan.

    Response: A requirement can be added for the contractor to prepare, submit, and adhere to an SPCC plan consistent with SUBASE NLON's own SPCC requirements. Please advise if required.

11. Section 02095, paragraph 3.1.4.b:

    Comment: Temporary on-site storage should be allowed on a not-to-interfere basis with Base operations. If this not allowed , it will only extend the duration of the pumping operations, further increasing the cost of the project.

    Response: See response to Comment No. 1 from NORTHDIV (BJH).

12. Section 02096, paragraph 1.6, "Site-Specific Training Requirements":

    Comment: Add that the contractor will perform a courtesy briefing to fire department watch captain. This briefing to include normal material given to contractor personnel plus an overview of Hazardous Waste Plan and Work Plan. This will allow SUBASE personnel to effectively assist in emergency response.

    Response: A requirement for the briefing as described will be added to Section 02096, paragraph 1.6.

13. Section 02220, paragraph 3.2.2.2, "Dewatering":

    Comment: Report exceedences of permit requirements to Contracting Officer immediately. Cease pumping operations immediately.

    Response: The need for immediate reporting to the Contracting Officer of any exceedence of temporary water discharge permit requirements will be added to this paragraph and to Section 02095, paragraph 3.1.3. The requirement to immediately stop dewatering pumping operation in case of discharge permit exceedence will also be added to this paragraph and to Section 02095, paragraph 3.1.3.

14. Section 13219, paragraph 1.7.b

    Comment: Tank volume (750,000 gal) inconsistent with volume listed in preceding sections (810,000 gal).

Response: The total calculated volume of OT5 (112 feet diameter by 11 feet depth) is 810,000 gallons. However, OT5 reported nominal capacity is 750,000 gallons. The later figure will be uniformly used throughout the Technical Specifications and Design Analysis.

15. Section 13219, paragraph 3.1.2:

    Comment: Indicate that confined space permit approval authority is SUBASE NLON Safety Dept. after review by SUBASE NLON Fire Dept.

    Response: This will be indicated.

16. Section 13219, paragraph 3.2:

    Comment: Tank volume again varies from that stated earlier.

    Response: See Response to Comment 14. above. The 750,000 gallons capacity will be uniformly used.

17. Section 13219, paragraph 3.3:

    Comment: "Oily" misspelled "oliy".

    Response: This misspelling will be corrected.

18. Section 13219, General:

    Comment: First talks about abrasive blasting, then about cleaning. Design Analysis specifies CAPSUR®. Which way is it? If the contractor has to decide so state. This was a large problem in last contract.

    Response: See opening statement and responses to Comments . The Technical Specifications are performance-based. A number of technical decisions, including the choice of tank cleaning method and material are left to the contractor, subject to subsequent approval by the Navy. The use of CAPSUR® as indicated in the Design Analysis is Halliburton NUS' recommendation. Language will be added throughout the Technical Specifications to clearly states which technical decision are the contractor's responsibility.

Halliburton NUS is currently modifying the design documents in accordance with the above responses. Please let me know if the Navy agrees with these. In particular, the Navy is requested to advise Halliburton NUS about the need to submit the draft design documents to U.S. EPA Region I and CTDEP and about the need to specify that the contractor prepare a site-specific SPCC Plan. Upon receipt of concurrence from the Navy, Halliburton NUS will finalize the modifications to the design documents and will re-issue these to the Navy, U.S.EPA Region I, and CTDEP.

Sincerely yours,

Jean-Luc Glorieux, P.E.
Project Manager

JLG/jlg

cc: Mr. Roger Boucher, NORTHDIV
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