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LETTER REGARDING REGULATORY REVIEW AND COMMENTS ON DRAFT RCRA FACILITY INVESTIGATION OF WASTE ACCUMULATION AREA WORK PLAN NAS FORT WORTH TX
10/14/1998
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

File: 17G
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# NAVAL AIR STATION FORT WORTH JRB CARSWELL FIELD TEXAS

## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 357

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# TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

*Protecting Texas by Reducing and Preventing Pollution*

October 14, 1998

Mr. Joseph R. Dunkle
Restoration Team Chief
Air Force Center for Environmental Excellence (AFCEE)
3207 North Road
Brooks AFB, TX 78235-5363

Re: Naval Air Station Fort Worth JRB/Carswell AFB (NAS Ft. Worth)
TNRCC Industrial Solid Waste Registration No. 65004
TNRCC Hazardous Waste Permit No. HW-50289
EPA ID No. TX0571924042
**Review of Draft RFI Waste Accumulation Areas Work Plan**

Dear Mr. Dunkle:

The Texas Natural Resource Conservation Commission ("TNRCC") has completed review of the Draft RCRA Facility Investigation ("RFI") Waste Accumulation Areas Work Plan for NAS Fort Worth JRB, submitted by the Air Force Center for Environmental Excellence ("AFCEE") letter dated August 28, 1998, and received by the TNRCC on September 2, 1998. The Waste Accumulation Areas covered by the Work Plan are identified as solid waste management units ("SWMUs") No. 5, 11, 12, 16, 31, 32, 33, 34, 36, 39, 42, 51, and 61, and Areas of Concern ("AOCs") No. 6 and 15.

For clarification, SWMUs 16, 32, 36 and 61 were listed in the Carswell AFB Permit No. HW-50289; SWMUs 5, 12, 31, 33, 42, and 51 were listed in TNRCC letter dated April 22, 1994; and all the SWMUs, including 11, 34 and 39, and AOC Nos. 6 and 15, were listed in TNRCC letter dated March 2, 1995 for inclusion into the permit requirement for Corrective Action. Based on our review of the Work Plan, several general and specific concerns were identified which must be addressed during the implementation of the investigation. A revised Work Plan is not required; however, AFCEE may wish to make corrections to the Work Plan for field QAQC purposes. AFCEE is directed to proceed with the investigations according to the Work Plan and the concerns listed below.

1) TNRCC letter dated March 2, 1995 lists in the Attachment, Waste Accumulation Areas ("WAAs") or SWMU Nos. 13 and 59 (also listed in TNRCC letter dated April 22, 1994) as

needing RFIs. They were not included. Please include them in the investigation considering the concerns below, or provide appropriate explanation in the report.

2) Borings should always be completed at the location most likely to find a release. This typically is within the unit and/or at an area that has been identified as having evidence of a release. If the initial boring is also going to be completed as a monitoring well, consideration should be given to locating the boring/well immediately down gradient of the unit being investigated. Many of the proposed locations for the initial boring/well do not appear to meet these concerns. These are specified below.

3) Provision VIII. A. 2. b. (1) requires that the uppermost aquifer be characterized (using several criteria). It also states that soil cores must be taken continuously from the surface to a depth of 20 feet and then at 5 foot intervals thereafter until groundwater is reached. Please note that this is a minimum. If the uppermost aquifer is to be characterized, the borings (or at least one of them) must be completed to the base of the aquifer with a soil core extracted for hydrogeologic characterization. AFCEE's proposal for the initial boring, to the base of the aquifer is correct; however, other areas of the text say to the top of the aquifer.

4) The Work Plan text states that the Phase II borings will be completed "as necessary". Conducting the RFI in phases when the permit limits the entire RFI to 12 months does not appear to be expeditious. Please note that one boring typically will not satisfy the permit requirements or guidance for characterizing a SWMU toward determining a release, unless the unit is extremely small and that boring has a high probability of being placed in the appropriate location. Typically those locations are "in" the unit, if possible, or directly adjacent to it. Also note that the proposed Phase II borings do not meet the permit requirement to sample every 5 foot interval. The TNRCC does however believe there is appropriate reason to consider the Phase II borings to a depth less than the bottom or even the top of the groundwater. These units are typically small. One boring may satisfy the intent of the permit to characterize the aquifer. However, for release determination coverage, the proposed "Phase II" borings should be completed with the Phase I borings. These may be "shallow" borings, but should be completed to at least 7 feet (sampled at 0-2 foot and 5-7 foot intervals) to ensure an adequate investigation for release determination. Based on the evidence of contamination in the initial boring or visual or OVA evidence in the shallow borings, the shallow borings may have to be deeper. If the extent is not adequately determined, additional and deeper borings may be required.

5) Provision VIII. A. 2. b. (1) also requires that all Appendix VIII constituents be analyzed unless a shorter list can be justified. Based on what was presented for each SWMU, such justification was not adequately provided. The general wastes and waste categories for each unit were given; however, a specific list of constituents for each unit, including the test method proposed, was not given. Please investigate for the required constituents and provide

such list in the report. The method with the lowest achievable Practical Quantitation Limit ("PQL") should be used, and the value for that should be presented in the text and on the summary table lab sheets. Also, please specify whether the detection limit is the method detection limit ("MDL") or PQL.

6) Please note that if a SWMU managed a waste, and that if released, could become a Dense Non-Aqueous Phase Liquid ("DNAPL"), monitor well screens installed at the top of the aquifer would not be adequate. Also, since the issuance of your permit, which allows a maximum screen length of 20 feet, the EPA and TNRCC are now requiring a maximum screen length of 10 feet for justified situations. This new requirement will be in your Compliance Plan. The TNRCC urges AFCEE to implement this policy for all RFIs.

7) AFCEE proposed in the Work Plan that this investigation be approved using the Base-wide Background Study Report by Jacobs, 1998. This document was reviewed by the TNRCC and the EPA and was approved by the TNRCC by letter dated January 20, 1998. Please however note EPA's concerns on outliers. Also, the TNRCC reminds AFCEE that the background sampling and statistical methods and values for sediment have yet to be approved.

8) The Work Plan text repeatedly refers to comparing the results to background or PQLs and RRS2 levels, and determining extent if samples identify contamination above the Risk Reduction Standards (RRS). Use of the RRS for the purposes of determining a release and the extent is not appropriate. The appropriate levels will be the background or the PQLs, which may be referred to as RRS 1.

9) Please note that all previous comments made by the TNRCC are appropriate [(ie., TNRCC letter dated December 11, 1997 concerning the RFI for the Landfills - specifically the comments concerning the applicable or relevant and appropriate requirements ("ARARs"); the Risk Assessment or ("BLRA"); the Corrective Measures Study ("CMS") and Implementation ("CMI"); and the constituents of potential concern ("COPCs")].

10) Also, the TNRCC has implemented guidance for the review of the investigation and the BLRA in accordance with the TNRCC Implementation of the Existing Risk Reduction Rules memorandum dated July 23, 1998. The "consistency" memorandum and additional implementation information can be downloaded from the TNRCC home page at: http://home.tnrcc.state.tx.us/waste/index.html

11) Section 3.4, bullet two, states that one boring will be installed using direct push technology ("DPT") at each unit and soil samples collected to determine if a release has occurred. At certain locations (which is vague) borings will be continued to bedrock and completed as groundwater monitor wells using hollow stem auger ("HSA") methods. Yet in Section 3.3

of the Field Sampling plan, it states that that "one boring" would use the HSA method for each unit. Several areas of the Work Plan appear to conflict. The HSA should be used for the deep boring and the DPT may be used for the shallow boring.

12) Section 3.5 states that if the shed is in good condition, then samples will not be taken from within that shed. That would seem to be logical if and only if waste was always managed in that shed, or only where that shed is located. If waste was historically handled in the SWMU area, but not only in the exact same shed or WAA location, and later a shed was built over part of the area, then that logic may not be applicable. In such a case, a boring(s) should be placed as close to the shed as possible, and/or wherever wastes were managed historically.

13) Section 3.5.1 SWMU 5 discusses the results of several wells previously completed and sampled, and how they are related to the removal of several USTs from near building 1628. Soil and groundwater contamination is reported in monitor well LSA1628-2 which appears to be down gradient from SWMU 5. The results from this well will be considered with the results from this investigation as to whether or not the detections in the soil and groundwater are only associated with the USTs. Please provide these results in the report. The initial boring may be placed in an appropriate location; however, if a monitoring well is to be completed for this SWMU, it should be located down gradient.

14) Section 3.5.2 SWMU 11 proposes two initial soil borings, both advanced to the top of the water table, with one to be completed as a monitor well, and does not propose Phase II borings. Neither of the proposed wells are down gradient of the SWMU. The TNRCC does not know if they are located where there is evidence of a release. Based on the history of where the waste was managed, two additional (shallow) borings may need to be completed. The boring/well completed to the "bottom" of the aquifer should be near building 1617.

15) Section 3.5.3 SWMU 12 references photos for this unit; however, Figure 1.6 does not appear to be included. The TNRCC agrees with placing the initial boring at the stain location, but for purposes of a monitor well, reminds AFCEE that that location is not down gradient. Although the proposed locations appear to be sufficient, the TNRCC understands that there is evidence of a release, there were several cracks observed in the concrete and asphalt, and there was no secondary containment. Additional borings may be required.

16) Section 3.5.4 SWMU 16 states that this unit managed hazardous waste, on asphalt, without secondary containment. Stains were noted on the asphalt, at the corner of the units, and extending about 20 feet to a shallow storm drain. The initial boring, which was proposed to be completed as a monitor well should be moved far enough to the northeast to maximize the chance to find groundwater contamination. This unit should include a minimum of 4 borings, located where the wastes have been placed in the past. Please note that there are

no proposed borings on the northeast and northwest sides of the SWMU. The TNRCC questions placing one boring next to the WAA and three next to the concrete ramps.

17) Section 3.5.5 SWMU 31 describes an outside uncovered unit without secondary containment. It appears this unit can be traced back to 1955, yet there was no reported evidence of release. Therefore, placement of the initial boring will be somewhat subjective. The proposed initial boring/monitor well is located to the south of the unit. The groundwater is portrayed as moving to the east. The eastern proposed Phase II boring location seems to be a better initial location. Also, the location of all of the borings appear to be too far from the unit to determine if a release has occurred.

18) Section 3.5.6 SWMU 32 describes an outside uncovered unit without secondary containment, with evidence of release. This unit has reportedly been operating since the early 1940's. The initial boring appears to be too far to the north of the unit to be completed as the only monitor well. There may be a good reason for the location of the northern most proposed Phase II boring; however, the TNRCC believes it should be located more closely to the unit. It appears that this unit warrants approximately three borings next to or in it.

19) Section 3.5.7 SWMU 33 describes an outside uncovered unit with heavy stains on the base of the unit. All borings should be completed in or as close to the unit as possible.

20) Section 3.5.8 SWMU 34 describes an outside uncovered unit without secondary containment, with stains at the edge of the unit. Also noted was that runoff traveled across bare ground. The TNRCC understands that previous investigations have been conducted near this unit, but were not complete. Never-the-less, Table 3.9 recorded soil contamination. The TNRCC also notes that information was not reported for nearby monitor wells MW-36 and 37. Please include the soil and groundwater results in the report. The proposed initial boring/monitor well appears to be located on strike or lateral to the groundwater flow. It should be located between SWMU 34 and 35, near the southeast corner of SWMU 34. Phase II borings were not proposed; however, based on the results of the previous investigation and the constituent specific list for this unit, additional shallow borings may be warranted. At a minimum, a shallow boring should be placed where the runoff traveled across bare ground.

21) Section 3.5.9 SWMU 36 describes an outside uncovered unit without secondary containment. Drums were placed directly on and stains were found on the ground and asphalt. Note that the photo in Figure 1.12 appears to show that the unit is larger than the illustration of the unit in Figure 3.8. Also, runoff traveled across unpaved ground into an unlined culvert. Due to both of these issues, additional borings appear to be appropriate at the unit, the runoff area, and the culvert. Also, it may be more advantageous to place the initial boring/monitor well as the only boring on the east side, unless the unit is much larger

than illustrated. A monitor well located as proposed would barely be on the down gradient edge of this unit.

22) Section 3.5.10 SWMU 39 describes previous soil and groundwater samples in which 8 constituents in soil and 7 in groundwater exceeded background or PQL and the RRS2 levels. AFCEE then states that background levels were not substantially exceeded and that data shows that a release has not occurred from this unit. Actually, according to Tables 3.10 thru 3.12, there were 47 exceedances of background or PQL, with 14 also exceeding RRS2. There certainly appears to be soil contamination involving multiple SVOCs and two metal constituents in boring 02 at the 0-2 foot interval, as well as shallow and subsurface VOC exceedances in all three borings. Also noted was that well WITCTA005 is just down gradient of this unit and is reported to show 6 exceedances of background or PQL and 4 of those also exceed RRS 2. Those numbers warrant further attention. Since a constituent specific list for this unit was not provided, the TNRCC cannot agree or disagree with AFCEE's conclusion at this time. The results should be resubmitted with a unit specific constituent list in the report, and additional samples in or next to the unit are needed to verify that these contaminants are not from this unit and to better defend the position of no further action.

23) Section 3.5.11 SWMU 42 proposals are not quite adequate. The initial boring/monitor well should be located in/at the eastern-most corner, based on the groundwater flow direction, and another shallow boring should be placed in/at the northern-most corner for proper coverage.

24) Section 3.5.12 SWMU 51 describes Clusters 1 & 2 Areas as managing waste on the ground. The Cluster 1 initial boring/monitor well does not appear to be proposed in an optimum location, and additional shallow borings should be completed. The Cluster 2 initial boring/monitor well should be located at the southern-most proposed boring location, and due to the larger size of this area, a few more shallow borings may be needed (they should be where the waste was managed - possibly in the light green shaded area). The Cluster 3 Area was previously investigated with borings 01-03; however, Table 3.14 only shows results from surface samples. If there were deeper results, please provide them. This area probably needs at least two borings with the boring being converted into a monitor well placed in an optimum down gradient location.

25) Section 3.5.13 SWMU 61 is described to be in poor condition. The initial boring/monitor well should be located near the eastern edge of the elbow in the unit. Based on where the wastes were managed and stains, there may need to be more than two shallow borings.

26) Section 3.5.14 AOC 6 describes a large area with contamination found in a reported cross-gradient well. The TNRCC does not concur. Of the twelve illustrated figures in Section 3 of the Work Plan, Figure 3.12 is the only one on which a groundwater flow direction arrow

is not found. However, based on the other eleven figures which show the direction to be easterly, it would appear that the location of monitor well ST14-W22 is easily downgradient from the majority of this unit. Please include the sample results from this well in the report for this unit. Both the borings/monitor wells should be located more toward the southeasterly edge of the unit. Due to the size of the unit, several shallow borings should be completed. Please place the borings at locations where stains or cracks exist, if possible.

27) Section 3.5.15 AOC 15 describes a small shed. The initial boring/monitor well should be located as close to and downgradient of the unit as possible. This well may serve this unit and SWMU 51, Cluster 3 if properly placed.

28) Section 3.5.17 Aquifer Testing references Radian (1991) material as being sufficient for aquifer information. Please note that the permit asks for a hydrogeological assessment at this point, and only "plans" to investigate the groundwater if the results of the soil boring program shows evidence that the groundwater may have been contaminated. Please further identify the Radian report as to which project and authority under which it was conducted.

29) Sections 4.0 RISK ASSESSMENT and 5.0 CORRECTIVE MEASURES STUDY - see comments under general concerns, item 9, of this letter. Both of these are premature at this point. These would be better served in the Final RFI Report.

30) Section 6.0 DATA ASSESSMENT, RECORDS, AND REPORTING REQUIREMENTS - for all the reported laboratory results, please identify whether the detection limits are the MDL or PQL; the values for the detection limit; the values for the PQL, if different; and identify which are artificially high and why (ie., dilution, matrix interference problems).

31) Section 6.3 REPORTING REQUIREMENTS - of the three recommended future courses of action proposed in the Final RFI Report, the second (more investigation) would seem to mean that AFCEE is not through with the investigation and should therefore not be submitting a Final RFI Report.

32) Section 6.3.4 Decision Documents refers to the Final RFI Report as the no further action document if the results of the RFI confirm a RRS1 or RRS2. Please note that under a RRS2, deed certification is still required (as the CMI), as is public notice of the remedy decision.

33) Figure 7.1 Project Schedule - please note that Provision VIII. A. 4. allows a maximum of 12 months for conducting the RFI activities. In addition, Provision VIII. D. requires submittal of the RFI Report within 60 days after the completion of the RFI. Please conduct the investigation and submit the report within those time frames.

**FIELD SAMPLING PLAN**

1) Section 2.2 does not refer to a Phase I and Phase II Program. It correctly refers to the initial boring being completed to bedrock (the bottom of the aquifer), and all borings being sampled at 5 foot intervals. Please ensure that the investigation conforms and is documented in the report.

2) Section 3.2 SAMPLE ANALYSIS SUMMARY - the permit requires a "list" of constituents for each unit, not a summary of chemical groups or classes with analytical methods, or an account of wastes. Please provide such in the report.

3) Section 3.3 FIELD ACTIVITIES - each unit's description of the investigation is set out in Phase I and Phase II, which only collects surface samples (0-2 foot). Again, this does not meet the permit requirements. Please investigate as modified above. There are no "plans" for a groundwater investigation, based on the results of the soil boring program; however, there are sections in the Work Plan that discuss monitor well completion and groundwater sampling. The use of the OVA is not discussed. Please address these issues in the report.

4) Section 5.4.4 Well Screen Requirements - see comments under general concerns, item 6, of this letter.

5) Section 5.0 MONITORING WELL DEVELOPMENT - for this and all other sections, please see the "Field Sampling Plan" comments in TNRCC letter dated December 11, 1997.

6) Section 7.0 FIELD MEASUREMENTS - the intention of the requirement to use the OVA is not to test the head space of samples that are being collected for lab analysis, but to test the core to see if there are high enough readings to justify additional sampling.

**HEALTH AND SAFETY PLAN**

1) Section 3.0 RCRA FACILITY INVESTIGATION ACTIVITIES - the Phase II borings should be completed with the Phase I borings, instead of "as necessary".

2) Section 4.1 Chemical Hazards - the constituents in Table 4.1 should be all the constituents tested for this investigation, inclusive of each SWMU's constituent specific list.

3) Section 8.1.2 Disposal of Decontamination and Other Wastes - please note that all wastes should be appropriately classified for handling, transporting, and disposal.

**APPENDIX B**

Please see the comments under the general concerns, item 9, of this letter concerning ARARs.

As a general note, the TNRCC has just reorganized in the area of remediation. All functions involving investigations and clean up are now managed in the Remediation Division. One of the goals is to eliminate the review and approval of RFI, BLRA, or CMS Work Plans, unless specifically required, or as determined to be necessary by the project manager. In particular, additional phased or revised work plans are not required to be submitted for review and approval. A facility will be expected to implement the investigation and submit a report. The report will be reviewed in detail, in accordance with applicable permit or order requirements, current guidance, and the "consistency" document. The TNRCC remains available to discuss an overarching approach to investigation and remediation activities at the site,

In consideration of the concerns presented herein, AFCEE should proceed with the investigations, in accordance with the approved schedule. Please submit an original and one (1) copy of the report to the Corrective Action Section for our review and approval within 60 days of the completion of the investigations. Also, please send a copy to the TNRCC Regional Office, attention Melvin Lewis, Regional Manager, 1101 East Arkansas Lane, Arlington, Texas 76010-6499.

If you have any questions regarding this review please contact Mr. Ray S. Risner of the TNRCC's Corrective Action Section in Austin at (512) 239-2333, mail code MC127, or via e-mail at rrisner@tnrcc.state.tx.us.

Sincerely,

Cathy Remmert

Cathy Remmert, Supervisor
Team II, Corrective Action Section
Remediation Division

CR, rsr

cc: Mr. Gary Miller, EPA Region 6, Dallas, TX (MC R04)
Mr. Rafael Vasquez, AFBCA/HQ - Bergstrom
Mr. Tim Sewell, TNRCC, Region 4, Duncanville
Mr. Antonio Pena, TNRCC PST, RD
Mr. Mark Weegar, TNRCC CAS, RD, Team II

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