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June 13, 1997

Jim Colter
Remedial Project Manager
Naval Facilities Engineering Command
10 Industrial Highway
Mail Stop #82
Lester, PA 19113-2090

Dear Mr. Colter:

Enclosed, please find my comments to the Remedial Decision Document (RDD) written by EA Science, Technology, and Engineering. Though I have quit the RAB board, I am happy to still comment on the NASJRB at Willow Grove.

Most EIS and other such reports fail to look at the overall site conditions such that there is a identification of contaminant fate and transport. Coupled with this is often an inaccurate assessment of environmental and human health risks. The manner in which I made comments for this reports was based on those facts; therefore, I have asked for some very detailed information that does not affect the proposed remedial action at the site, but does to pertain to the general information that needs to be reiterated during the process of site risk analysis and closure.

I am happy to help in the public comment phase of the Willow Grove cleanup and closure process. Since I have worked on several Superfund and other sites in regards to clean up procedures, it is from that experience that I make such forward comments.

Thank you for your time. Please call me 215-794-9995 with any questions

Sincerely,

Alix Rauschman
Freelance Consultant

June 13, 1997

To: James L. Colter
Remedial Project Manager

From: Alix J. Rauschman
RAB Member/Consultant

RE: Comments to the Remedial Decision Document for Remedial Action at the Navy Fuel Farm at the Naval Air Station Joint Reserve Base (NASJRB), Willow Grove, Pennsylvania.

Enclosed, please find comments to the aforementioned report as requested by you for NASJRB.

Comments:

Section 1.1, Purpose.
State when the 32-month pilot study began and ended, instead of just having this information at the end of the report.

Section 1.2, Organization of the Report.
Section 3 is a brief summary of potential site risks, not a "qualitative evaluation of potential risks to public health and the environment..."

Section 1.3, Pilot Study Scope of Work.
Since this section does not describe the work plan activities or the scope of work, this section should go under a different heading like "Summarized Work Plan and Scope of Work," with the following subheadings:1.31 Phase I-LNAPL Recovery; 1.32 Phase II-Source and Residual Hydrocarbon Reduction.

Describe the difference in pumping alternatives. What is the rationale for using these systems for waste removal in reference to long-terms alternatives for what the site will be used for in the future.

Section 1.3, Pilot Study Scope of Work, Phase I, second bulleted item.
The 'I' in 'installation' needs to be capitalized.

Section 1.3, Pilot Study Scope of Work, Phase II.
In the last section under "Activities conducted during the Pilot Study," conclusions of the following were not made:

Bullet 1: There was no description in the report as to the actual extent of contamination and whether monitoring well information provided an accurate assessment of actual contaminant migration.

Bullet 2: Actually the effectiveness or non-effectiveness of all of the alternatives were presented.

Bullet 4: The only mention of air monitoring was PID monitoring of the site whereby no measurements of air quality were discussed. The air treatment systems itself was not expounded upon.

Section 2.1 Site Setting.
The site setting is the most important part of the report. In order to evaluate the fate and transport of contaminants, it is important to get an idea of what could be impacted at least within a 1 mile radius of the site such as populations that drink groundwater or potentially sensitive environments such as wetlands or rivers. It is also important to specify whether the site has undergone hazardous ranking procedures if it pertains, thereby giving the reader a focus for the upcoming risk analysis and discussion of alternatives.

Please describe exactly, what surrounds the tank farm, for "several other base facilities" could mean anything. These base facilities could also be a potential point source of contamination.

Section 2.4 History of Fuel Storage and Product Releases at the Navy Fuel Farm, Paragraph 2.
More information needs to be given regarding the spill which occurred in 1986 including a map with spill location and possible boundaries of contamination. Such questions need to be answered such as:

1. How much fluid leaked from the tank(s)?
2. Where exactly was the utility trench that was excavated, how effective was it, and how large was the trench, and why was a trench excavated only to the west of the tanks?
3. What happened in 1986 to stop the spill, when was it stopped, and did the contaminants migrate off site?
4. What happened between 1989 and 1991 with these tanks if they were not emptied and removed?
5. Was the spill cleaned up? If not, why?

Section 2.4 History of Fuel Storage and Product Releases at the Navy Fuel Farm, Paragraph 3.
In March 1989, '... jet fuel was "emanating" from two patches of dead grass on the west side of Tank 115.' Change the word 'emanating' to 'seeping.'

There is no indication on the figures provided as to where the ditch on the north side of the site is located. Did contaminants actually flow across the site to the aircraft parking apron? Where exactly is the ditch and what type of ditch is it? Questions that need to be answered about the ditch are the following:

1. What type of ditch is it? How deep is it? Does it contain water that flows offsite?
2. Where does the ditch originate from, where does it travel to, and what direction does it go?
3. How deep is the ditch and what type of soil is in the ditch?
4. Why wasn't this ditch sampled during the soil sampling phase?
5. It the ditch filled with water on an intermittent basis or year round? What direction does water flow in the ditch?
6. Was the waste oil removed?

Section 2.4 History of Fuel Storage and Product Releases at the Navy Fuel Farm, Paragraph 4.
How many ASTS were installed and how many are in use?

Section 2.5 Comparison of Analytical Results to Regulatory Guidance Criteria.
Change VOC to VOCs.
Sentence 1:What years were the previous investigations, what were the conclusions of the investigations and why are more investigations warranted now?
Sentence 3:What investigation(s) were the VOCs encountered, and what how much was present?

Section 2.5.1 Soil Samples Paragraph 1.
Rewrite the first sentence to say 'In March 1989, EA was contracted by the NASJRB to perform the ___ (how many investigations were performed? This is not the first as suggested) sampling effort at the Navy Fuel Farm whereby a total of 24 samples were collected from 18 borings installed around Building 340. The investigation was recommended by (Governmental Institution) to assess the potential subsurface hydrocarbon contamination in areas planned for future construction.'

Explain the rationale for collecting samples around building 340 when the spills occurred in the Navy Tank farm. Where is the figure to show the sample locations?

Compare sampling results (data) from different sample years. There is no comprehensive discussion of investigations that took place at the Tank Farm nor an accurate history of sample data and sampling rationales. What was the rationale for not doing priority pollutant analysis. There could have been metals, VOCs, and other contaminants worth noting. Explain why samples were not taken around other buildings.

What are the 'guidance criteria' as described in the last sentence? How pertinent are they in comparison to other PA or Federal guidance?

Section 2.5.1 Soil Samples, Paragraph 2.
Explain whether or not methylene chloride and 2-butanone are considered present due to lab contamination in the sample.

Section 2.5.1 Soil Samples, Paragraph 3.
There is no explanation as to why sampling took place in 1991. The first two paragraphs should have summarized the general findings in order to allow for a rationale for needed sampling in 1991. The following questions need to be answered in this paragraph:

1. How many soil samples were taken, why and where? At what depth?
2. Why were soil samples taken if monitoring wells were installed?
3. Why weren't the samples tested for priority pollutants?

Section 2.5.2 Ground-Water Samples, Paragraph 1,2.
Explain why groundwater samples were collected over the five year span from 1989 to 1993. Where were the samples were collected? Of the 23 groundwater samples collected prior to June 1993, what were the preliminary findings that would suggest further analysis? If the groundwater had contained anything significant, a review of the potential onsite risks plus a fate and transport model are important to characterize contamination patterns at the site. It may be possible that through

migration, groundwater may have taken contaminants away from the spill area, and in the process of depth fluctuation, deposited contaminants in other subsurface areas.

Groundwater samples contained benzene in excess of "guidance criteria." If LNAPL is present at such a level as to inhibit sampling at other monitoring well locations, why isn't there a discussion of what was done to mitigate the situation so that either a risk analysis could characterize the site as a hazardous waste facility which would warrant immediate remediation, or that the samples were taken despite the presence of LNAPL?

When sampling is not completed, then the site cannot be correctly characterized. On army base sites, where minimal impacts are reported, it is necessary that a full sample effort occur so that the data is complete.

Section 2.5.2 Ground-Water Samples, Paragraph 2.
This paragraph state that well 19 contained benzene at concentrations in excess of the guidance criteria. However, the last sentence states that well 19 was not sampled due to the presence of LNAPL. This discrepancy should be changed.

Section 2.5.2 Ground-Water Samples, Paragraph 3.
It is unclear when the pilot study took place and why it occurred after sampling efforts between 1989 and 1993 showed that the remedial actions discussed in the purpose of this report needed to occur at the time of the spills and not two years after the last sampling phase was completed. What was the rationale for collecting only seven samples. Where were the samples taken, at what depths, and at what time? There was a 1 year and two month difference between April 1995 and July 1996. What samples where taken at what time and why?

Section 3 Risk Evaluation, Paragraph 1.
The word 'wether,' needs and "h."

Section 3 Risk Evaluation, Paragraph 2.
If several COPCs exceeded guidance criteria in subsurface soil and groundwater, it is important to describe the fate and transport of contaminants on- and off-site. Despite the fact that the groundwater is not a drinking water source, is the groundwater in that area potable Class I or Class II groundwater? Does groundwater migrate to any nearby ecological areas, such as the Neshaminy Creek, that could possibly be affected by groundwater contamination or by surface water runoff? What other wetlands or sensitive species live in the area? All of this can be referenced if mentioned in another document.

Section 3 Risk Evaluation, Paragraph 3.
This paragraph specifically states that groundwater is impacted, therefore justifying the need for further discussion of human health and environmental impacts.

Section 3 Risk Evaluation, Paragraph 4.
Surface soils are soils that migrate, therefore it is important to know what contaminants exist. What is the rationale for not having sampled surface soil during any of the investigations? Surface soils need to be collected in conjunction with subsurface samples in order to examine the downward migration potential of surficial contaminants to lower soil strata and possibly, groundwater.

Section 3 Risk Evaluation, Paragraph 7.
In a situation where hazardous ranking is necessary to characterize a Superfund site for further evaluation, discharge points only 2,000 feet, or less than ½ mile from the point of discharge can literally characterize the site as hazardous according to the scoring methodologies in hazard rank scoring. It is necessary to sample that point of discharge to determine fate and transport of contaminants.

Section 4.2 Occurrence and Distribution of LNAPL, Paragraph 1.
It is incorrect to state that the presence of LNAPL at the Navy Tank Farm are due to ground-water elevations. Contamination has ceased on site. Therefore, it needs to be concluded as to whether or not LNAPL in the soil now is dissipated with the rise in groundwater, and whether it is stagnant during times of low groundwater. How much fluid migrates from the source of contamination each groundwater cycle? How many cycles are there? Since the Navy Tank Farm is 2 acres, and contamination has been encountered in a 4.6 acre area around the farm, it can be assumed that contamination may have gone off-site and that it had spread.

Section 4.2 Occurrence and Distribution of LNAPL, Paragraph 2.
This paragraph mentions figures 5-1 and 5-2, which are not present in this report.

Section 5.
Why is technique of bioslurping mentioned at this point when the method will not be considered for future use.

Section 6.
No Comment

Conclusions:

In general, there are a lot of holes in the data that suggest that the site has not undergone any correct form of characterization in terms of the whole site acting as source of contamination were the fate and transport of contaminants on-site to potential off-site sources is an area of concern. In terms of the report, there is a presentable explanation of the techniques of LNAPL removal and the rationale for choosing the vacuum-enhanced recovery method.

The fact that the sampling efforts are so inconsistent is a large problem because the fact that the site has contained significant contamination without immediate removal is a source of concern. The data for soils and groundwater is inconclusive in that it fails to demonstrate the migrational patterns of on-site contamination which is crucial in the determination of risks in the area of the Naval Base itself.