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LETTER REGARDING U S EPA REGION I COMMENTS ON DRAFT ADDITIONAL
INVESTIGATION REPORT FOR SITE 10 WITH ATTACHMENTS NSY PORTSMOUTH ME
8/27/2002
U S EPA REGION I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
1 CONGRESS STREET, SUITE 1100 (HBT)
BOSTON, MASSACHUSETTS 02114-2023

August 27, 2002

Mr. Frederick J. Evans, P.E.
Remedial Project Manager
Engineering Field Activity Northeast
10 Industrial Hwy., Mail Stop #82
Lester, PA 19113-2090

Re: **Site 10 Draft Additional Investigation Report, Portsmouth Naval Shipyard, Kittery, Maine**

Dear Mr. Evans:

Thank you for the opportunity to review the above report. Our detailed comments are attached. In general:

- The information and data presented are overall consistent with the work plan.
- We concur that the significant environmental issue at site 10 is metals contamination, primarily lead, in soils and that a risk assessment and further study to define extent under building 238 should be performed. This contamination also provides a source for the ongoing groundwater contamination detected.
- We are able to concur with the recommendation to not conduct the modeling of contaminant transport offshore via groundwater because we believe that an exceedance of surface water levels for lead is unlikely due to several unique site specific factors. However, we have several concerns with the groundwater flux and dilution calculations.
- Due to site variability obtaining a truly representative groundwater sample is a challenging problem. Project resources might be best spent by examining the OU4 long term monitoring program and revise it if required to monitor for flow from site 10.

I regret our late reply. For any questions, please contact me at 617.918.1344 or at barry.michael@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "M. S. Barry".

Michael S. Barry
Federal Facilities Superfund Section

Attachment

cc. Kristen Alberti/Gannett-Fleming
Kathy Campbell/CDW
Deb Cohen/Tetra Tech NUS
Ken Finkelstein/NOAA
Carolyn Lepage/Lepage Environmental
Conrad Leszkiewicz/CDW
Iver McLeod/ME DEP
Marty Raymond/PNS
RAB Members

Attachment 1
US EPA Comments to Site 10 Additional Investigation Report
Portsmouth Naval Shipyard
Kittery, Maine

1. EPA has some concern that the ongoing (and past) impact of Site 10 to off shore areas could have been underestimated. Despite this, for site specific reasons, EPA can concur that a contaminant study need not be performed. The LTM program should be examined to ensure that it is accurately monitoring for flow from site 10 and modified if required.
 - a. Impact from groundwater is due to both groundwater flux and contaminate concentration; both have issues:
 - i. Groundwater flux. The investigation developed a calculated groundwater flux from the site of 0.0111 cubic feet per second, based upon a single pump test and the hydraulic gradient at low tide. Review of the soil logs, grain size analyses, groundwater level response to tidal fluctuations, and the pump tests in the report suggest that the flux from the site, on a cyclical tidal basis, is several orders of magnitude higher than was calculated.
 - (1) The calculated 40 ft/day hydraulic conductivity may be valid at low tide, but doesn't correlate to observed tidal fluctuations in the wells. EPA/GF-CDW calculates the groundwater flux as being closer to 3.0 cubic feet per second during the ebbing tide. For the river data used this results in a dilution factor of approximately 270 during ebb tide compared to the value of 27,973 provided in the dilution analysis, or two orders of magnitude less than calculated.
 - (2) It should be noted that this revised dilution factor still does not appear to result in the Federal Saltwater Quality Criteria being exceeded and due to tidal cycles, conditions will vary considerable over each day.
 - ii. Low tide may not be the optimal time interval for this site since the top of the screens are below the most highly contaminated soil. Mitigating the above would be the fresh dilution by the incoming tide and the tendency of inorganics to be more resistance to dissolve into salt water than fresh water (confirmed by

the MEDEP study). It is also noted that low tide has been the concurred upon sampling time at PNS in the past.

- b. Several site specific factors lead EPA to question the utility of a contaminant transport study for the range of contaminant flux likely at site 10. Among them are in EPA's view:
 - i. Large tidal flow relative to the small size/flux from site 10; which is located just off the main channel of the Piscataqua River. Infinite dilution of departing groundwater isn't unreasonable.
 - ii. Presence of an engineered seawall and minimal salt flats that could be impacted.
 - iii. The tendency to soil contamination to go into solution less in salt water than fresh. Study which showed less sorbed onto salt water.
 - c. Rather than performing a complex study which would have to account for daily tidal changes and probably significant regulator comment why not sample the surface water adjacent to the seawall or discharging groundwater directly? The LTM program should be examined to verify it fairly assess surface quality and modified if it is not. This may be a good location to try the new passive diffuser samplers that have been modified to sample for inorganics as well; or use another method to grab samples adjacent/under the seawall.
2. **Page ES-3, Second Paragraph, Second complete sentence:** The likely original source of the lead currently in the fill material is the release from the battery flushing operations. The report indicates that lead was observed in the fill material at various locations reflecting the heterogeneity of the fill material, the high bulk hydraulic conductivity and the extraordinary degree of flushing in the top 10 feet of the soil matrix beneath the building crawl space.
 3. **Page ES-4, Third Bullet:** The precise impact from the site to off shore areas may not be characterized as accurately as possible, but contamination above Federal Saltwater Quality Criteria is not likely. That being said, monitoring should be performed as close to the groundwater-surface water interface possible at various tidal flows. This would ensure an accurate monitoring of worst case conditions until a final remedy for the source soil is completed. This location may also be a good place for a trial of the new diffusion samplers for metals. See comment 1 above.
 4. **Page 4-7, Fourth Paragraph, 3rd Sentence:** See comment 2, above.
 5. **Page 4-7, Fifth Paragraph, 5th Sentence:** See comment 2, above.
 6. **Page 4-8, First Paragraph, Last Sentence:** See comment 2, above.
 7. **Page 6-2, Last Bullet:** See Specific Comment 3, above.