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NSY PORTSMOUTH
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LETTER AND U S NAVY RESPONSE TO MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION COMMENTS REGARDING DRAFT GROUNDWATER SAMPLING FOR RADIONUCLIDES NSY PORTSMOUTH ME
4/14/1999
PORTSMOUTH NAVAL SHIPYARD

NAVSHIPYNOTSMH-5216/9 (REV 8-84)

DEPARTMENT OF THE NAVY
PORTSMOUTH NAVAL SHIPYARD
PORTSMOUTH, NH 03804-5000

IN REPLY REFER TO:

5090
Ser 105.5/182
14 Apr 99

FILE

Checked by

Dr 4/14/99

105.52

JaB 4/14/99

105.5

Mr. Iver McLeod
Maine DEP
State House Station #17
Augusta, ME 04333

Dear Mr. McLeod,

In June 1998, Portsmouth Naval Shipyard (PNS) issued a draft one-time environmental sampling plan at EPA and Maine request, as a supplement to the shipyard's routine quarterly radiological environmental monitoring program. The draft plan, Groundwater Sampling for Radionuclides, addresses sampling of on-site pond water, sediment, and biota as well as groundwater. PNS responded to your comments on the draft plan in a letter dated November 13, 1998.

Your letter of February 23, 1999 forwarded a follow-up question regarding our prior response. Enclosure (1) contains our answer to your comment. I hope this clarifies your remaining concern on this matter. We expect to finalize the plan and implement it in the near future.

Should you have any further questions, please feel free to contact me at (207) 438-1283.

Sincerely,

J. A. BRANN
By direction

Enclosure: 1. Navy Response to Comments from the State of Maine Department of Environmental Protection letter dated February 23, 1999

Copy to:
NAVFACENGCOM (Code 1823/FE)
Environmental Protection Agency, Region I (Cassidy)
TAG Advisor (Lepage)
RAB members

Blind Copy to:
COMNAVSEASYSCOM (SEA 04N, 08R)
NRRO PTSMH (Mr. Solich)
105
105.5
105.6
106.3 (Ms. Raymond)

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Navy Response to Comments from the State of Maine
Department of Environmental Protection letter
dated February 23, 1999

Comment: The response to Comment 4 indicates that the text of Paragraph 5.b(2) will state, "Fill areas are undesirable locations [for background wells] as discussed above." Yet, the response to Comment 6 indicates Paragraph 5.e(2) will state, "If samples from a designated site have detectable levels of radioactivity, the results will also be compared to samples from monitoring wells drilled into rock formations which are generally similar to the suspect sample monitoring wells (i.e., bedrock compared with bedrock, fill compared with fill, etc.). [emphasis added] This is necessary because background levels of naturally-occurring isotopes can vary significantly." The response to Comment 6 seems to contradict the response to Comment 4, discussed above.

Response: Of the overburden wells (i.e., wells in which water is sampled from the overburden) listed in the draft monitoring plan, none are located in naturally occurring overburden. In general, identification of background wells was based on reviewing the results of several rounds of water monitoring for chemical contaminants to find wells that (1) do not contain contaminants from landfill areas, and (2) are not in landfill areas. Since the original islands upon which the Shipyard was built are basically rock formations with little topsoil, the wells meeting these background criteria happen to be drilled into bedrock. Note that the second selection criterion listed in the draft plan is redundant with the first so will be eliminated.

Background wells are only needed for comparison in cases where the radionuclide of interest exists in the natural environment. In the case of cobalt-60 and other non-naturally occurring radionuclides associated with Shipyard operations, any amount found can be attributed to the Shipyard. In the case of radium, which is naturally occurring and which can vary substantially in concentration from one location to another, a simple comparative test with results from background wells may or may not be sufficient (for reasons including differences due to geology); this is why further data analyses are addressed in the plan. The data analyses specified in the plan include comparison of data from a particular well with other well data within a site, data from background wells, tabulated data from all the wells/sites, and data from wells of similar geologic composition, as well as data being plotted on a map. If these are inconclusive, further statistical analyses will be conducted. Although there is some geologic difference between the background (all bedrock) and landfill monitoring wells, the information obtained from the background well samples is expected to be useful and is only considered in part of the data analyses to be performed.