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NCBC DAVISVILLE
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EMAIL REGARDING ADDITIONAL COMMENTS FROM U S EPA REGION I ON DRAFT FEASIBILITY STUDY OPERABLE UNIT 9 (OU 9) SITE 16 NCBC DAVISVILLE RI
03/28/2011
U S EPA REGION I

Vetere, Stephen

From: Dale, Jeffrey M CIV NAVFAC MIDLANT, EV [jeffrey.m.dale@navy.mil]
Sent: Monday, March 28, 2011 3:20 PM
To: Vetere, Stephen
Subject: FW: Davisville, OU9 (site16) additional concerns not mentioned at the March 17, 2011 BCT meeting
Signed By: jeffrey.dale@navy.mil

-----Original Message-----
From: williams.christine@epamail.epa.gov [mailto:williams.christine@epamail.epa.gov]
Sent: Monday, March 28, 2011 15:20
To: Barney, David A CIV OASN (EI&E), BRAC PMO NE; Dale, Jeffrey M CIV NAVFAC MIDLANT, EV
Cc: richard.gottlieb@dem.ri.gov
Subject: Davisville, OU9 (site16) additional concerns not mentioned at the March 17, 2011 BCT meeting

As we discussed today, Dave, I have included the following in my draft of the FS comments:

1. In the new data presented to EPA in November, EPA notes the lack of sampling for the AFFF emerging contaminants. It has come to our attention that PFOA/PFOS may be toxic to the benthic community. In a review of 10 papers on the aquatic toxicity of PFOS and/or PFOA to perhaps 10 species of aquatic animals, acute toxicity occurs at the range of about 10-300 mg/L. Chronic effects were observed at concentrations as low as 10 ug/l in fish larvae and about 90 ug/l in midge larvae. There was an unusual effect in that exposure of the parental generation of fish to PFOA or PFOS made the larvae much more susceptible, perhaps by depletion of parental thyroid hormones passed on through the egg combined with the anti-thyroid effect of post-hatch exposure. This phenomenon also occurs in rats in which effects occur in offspring at concentrations lower than those that were nontoxic in the parents. Since toxicity might occur at FFTAs that abut surface water (i.e. with little or no groundwater dilution), EPA recommends that PFOS and PFOA be analyzed for in groundwater near FFTAs at NCBC. If these chemicals are detected in groundwater, then they should be analyzed for in downgradient groundwater and/or piezometers to demonstrate that they do not occur at concentrations that could be chronically toxic to benthic infauna. Although we did not search for terrestrial ecological effects, the search did come up with one study that reported that the highest no observed effect concentration in soil for earthworms was 160 mg/kg PFOS and 500 mg/kg PFOA. If the FFTA could serve as earthworm habitat, these chemicals should also be analyzed for in soil, because they are known to bioaccumulate in the aquatic and terrestrial foodchains. Therefore prior to ROD signature, Navy must sample the groundwater at the FFTA to determine the concentration of PFOS and PFOA in the groundwater that may discharge to Allen Harbor.

2. Another issue that was not mentioned at the meeting is that EPA is

concerned that the temporary wells outside of both the NORAD and Sea Freeze buildings were developed and sampled on the same day (within 10 to 25 minutes). It is customary to wait at least 48 hrs, if not a week, after development to sample for VOCs that may have been stripped out of the water column during development. Navy must resample wells designated as: TW-19 through TW-29 prior to ROD signature. If the plume boundaries change due to the new data, additional VI sampling may be needed before ROD signature.

thank you for addressing these issues.
Christine

"The creation of a thousand forests is in one acorn." — Ralph Waldo Emerson

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"Sometimes leadership is planting trees under whose shade you'll never sit." Gov. Jennifer M. Granholm