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EMAIL REGARDING U S EPA REGION IV COMMENTS ON RISK CALCULATIONS FOR FISH
CONSUMPTION AT THIRD BATTALION POND AT SITE 3 CAUSEWAY LANDFILL MCRD
PARRIS ISLAND SC
2/17/2010
U S EPA REGION IV

From: Llamas.Lila@epamail.epa.gov
To: Harrington.CIV.Timothy.J
Cc: Stacey.French; Kent.Krieg; Reed.Sarah.M; charles.cook2@navy.mil; llamas.lila@epa.gov; Sladic.Mark; timothy.j.harrington@usmc.mil; mmcrae@TechLawInc.com; AmickMS@dhec.sc.gov; darrel.pittman@usmc.mil; Kelly.Taylor2@ch2m.com; GerryAM@dhec.sc.gov; Claggett.Libby; Frederick.Tim@epamail.epa.gov
Subject: Re: FW: FISH CONSUMPTION ISSUE
Date: Wednesday, February 17, 2010 4:50:52 PM

Hi Tim H.,

Thanks for checking in with everyone before doing this. I recall seeing an email from the State recommending a team discussion before the Base takes any action (I think it also said after review of the Tech Memo is completed, but I understand the Base may not be comfortable waiting that long). Hopefully we could do this on the 24th? I have not heard anything final from the Navy/MCRD/Tt with respect to finalizing a conference call on that date. It seems we could at least talk about this one issue, even if Tt is not ready to facilitate a path forward discussion on the Tech Memo itself. I would suggest the Navy/MCRD/Tt make the call official, set aside enough time to address both issues, and see what we are really ready to discuss when we get there. The state had offered 11-12:00 and 1-2:00. Maybe 11-12 we could discuss the Tech Memo (quickly go over the basics from our Friday discussion, then talk about anything else Tt has done to prepare for a path forward discussion), then call in again at 1 to discuss the Base action at the 3rd Battalion Pond. That would at least officially get the call on all of our calendars.

Clearly the team has not made any determination yet regarding a required action in a final remedy, and specific details of the Tech Memo have not been finalized, including risk calculations. Even though it is premature to be making a decision from a Site perspective for a final remedy, I do have some immediate feedback from a regulatory perspective based on the Site 3 Interim Record Of Decision (IROD).

Current requirements of the IROD call for Land Use Controls (LUCs) to control exposure pathways to contaminants. A Memorandum Of Agreement (MOA) was established to certify to the implementation of the LUCs, and a Land Use Control Implementation Plan (LUCIP) was developed pursuant to the MOA and IROD to specify LUC requirements. The Site 3 LUCIP is presented in Appendix A of the IROD. The LUCIP states that LUCs will be implemented for continued application of appropriate restrictions on future usage of the property encompassing Site 3. Unauthorized activities specified in the LUCIP include "Subsistence fishing from the pond (addressed by placement of signs at Site 3)." The LUCIP also specifies that the restrictions will apply until/unless site remediation is conducted to restore the site for unrestricted use. The Navy developed signs which stated there was to be no subsistence fishing at Site 3 in order to meet these IROD/LUCIP requirements. These signs have been approved as being sufficient to meet the IROD requirements and have been in place since that point in time.

Based on this email and some phone conversations, EPA understands that in response to recent fish tissue data collected from the 3rd Battalion Pond (adjacent to Site 3) the Navy/MCRD now wishes to, at least temporarily, replace these signs with a more conservative sign limiting fishing activity to catch and release only. EPA further understands the placement of signs with this new activity limitation would be intended to meet the IROD requirements. At this time initial reaction here in

Region 4 is that EPA would likely approve this change if officially requested, and consider it as meeting the IROD requirements, since it is more conservative and appears to meet the intent of the IROD. However, should the Navy/MCRD determine at some time in the future this limitation is no longer desired, the previous signs restricting subsistence fishing would need to be replaced until the Navy/MCRD obtained approval of an alternative sign for meeting IROD requirements, or until/unless site remediation is conducted to restore the site for unrestricted use, or until a final remedy is in place which no longer requires this particular LUC. Until such a time, the removal of signs without the replacement with an approved sign would place the Navy/MCRD out of compliance with the IROD requirements.

Now, that being said, there are certainly other things to consider before taking your action, some of which I am sure we would discuss on the call.

* The first thing coming to mind would be whether or not you are sufficiently prepared to respond to inquiries, which you most likely will get.

- We have not finalized a CERCLA risk assessment (including risk level calculations).
- EPA has concerns with discussion of "non-dioxin-like PCBs" as well as "total PCBs" since this data was not apparently collected
- EPA has other more minor concerns with the Tech Memo calculations as well.
- EPA has also offered some different ways of looking at the data, which could potential change the end results.

* And last, but not least, the State has expressed concerns, and requested a call, before you move forward. EPA suggests this request be met if at all possible. Let us know if you need to accelerate the call to meet Base and State needs.

Based on the observed date of the Center's email, it is apparent this information was prepared without the benefit of our Friday discussion. However, EPA also recognizes the desire for the Navy/MCRD to take at least some temporary measures until this can all be straightened out, and furthermore, to react to data, whether or not the data may ultimately be determined to be non-Site related.

Additionally, EPA has not instructed the Navy to use the fish advisory guidance to calculate "acceptable" fish consumption rates. It is also apparent that perhaps a proper explanation of "how we got here from there" has not been provided to the Center. A proper explanation may be useful to support future discussions/consultations/interactions with the Center for both EPA and the PI Team.

That's all for now,
Lila

From: "Harrington CIV Timothy J"
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Date: 02/17/2010 09:58 AM

Subject: FW: FISH CONSUMPTION ISSUE

I am forwarding the risk calculations provided by the Navy Marine Corps Public Health Center.

Based on the calculated risk, we, the Depot, think it is appropriate to post the pond as "Catch and Release Only" until we can resolve the issue, as a team. We have not yet taken any action, however, we would like your feedback on that approach.

V/R, Tim

-----Original Message-----

From: Corack, Jennifer (CIV) [<mailto:Jennifer.Corack@med.navy.mil>]

Sent: Thursday, February 11, 2010 15:23

To: Harrington CIV Timothy J; Forrest, Sarah M. (CIV); Simmons, Mary Ann (CIV); David Barclift; Charles Cook

Cc: Wang, Vera D. (CIV); Gamache CIV Christopher D; Williams CIV Scott R

Subject: RE: FISH CONSUMPTION ISSUE

Good afternoon,

I apologize that I don't know everyone's email addresses...please forward to anyone that I omitted from the distribution.

Per our call yesterday, I did some calculations regarding "acceptable" fish consumption rates. Since you have been requested by EPA to use their 2000 "fish advisory" guidance, this is what I relied upon. Keep in mind that this is a different process and includes some different assumptions than would be used for a CERCLA investigation.

That said, I want to caution this team about going too far down a "non-CERCLA" path. I realize that EPA requested use of their 2000 guidance on setting fish consumption advisories, but the more heavily this guidance document is relied on to communicate potential risks to the local community, the more difficult it may become to separate yourselves from this very conservative guidance when you are back on track doing evaluations in support of the Remedial Investigation. It may be advisable to remind EPA frequently that the negotiated use of this guidance was only discussed for this scenario and should not automatically be carried forward into RI-related processes. Of course, you are the risk managers and I am just here to facilitate your decisions. Since it's my understanding from the call yesterday that the

team should be using the EPA's 2000 fish advisory guidance, that is what I did.

I calculated site-specific fish consumption limits based on the detected levels included in the December 2009 Tech Memo. I used the 95% UCLs for each constituent since that is more representative of the average concentration a receptor would be exposed to than the maximum detected value would be. The 95% UCL is also more conservative than a simple arithmetic average.

For the chemicals that are evaluated as carcinogens (i.e., DDT and all PCB), I used an acceptable target risk level of 1 in 1 million (1E-06). I used this conservative value in hopes that it would also be protective of subsistence fishers. If you want to change the target risk level, just adjust my results accordingly. For the chemical evaluated as a noncarcinogen, I used a target hazard index of 1.

The guidance recommends a value of 0.227 kg/meal as the average meal size. The guidance recognizes that this may not be protective of individuals that have atypical eating habits and regularly consume larger meals. However, without additional site-specific information, this seemed like the most appropriate value to use in the calculations.

Given all of this, based on the presence of DDT and methylmercury in fish tissue, a receptor could consume up to 7 meals per month based on the EPA calculations. However, based on the presence of non-dioxin-like PCBs that acceptable number is reduced to 1 meal per month (actually 1.2, so if you change the target cancer risk to 1 in 100,000 this becomes 12 meals per month). When you include dioxin-like PCBs in fish tissue, less than one meal per month would be recommended (i.e., 0.014), which gets rounded down to zero (that is, the guidance doesn't suggest that you use a longer period such as a year).

As such, if you are basing your decision on what was detected in the fish tissue rather than what is in fish tissue from Site 3 contamination (that is, if we are including the PCBs), the short answer would be not to consume fish from this area. Per our discussion yesterday, it seems like this will be an issue with the state, and I think it's something for the entire team to consider very carefully.

The EPA's 2000 guidance includes already calculated fish consumption limits for the contaminants at your site. I'll include these numbers below, but please be aware that the guidance uses an acceptable risk level of 1 in 100,000 for potential carcinogens.

Methylmercury site 95% UCL = 0.14 mg/kg; 4 fish meals per month (note that this slightly lower than the site-specific value I calculated because it is based on a range of values in tissue rather than the point estimate I used).

DDT site 95% UCL = 0.0037 mg/kg; 16 fish meals per month (note that this is very close to the unlimited consumption concentration).

Non-dioxin-like PCBs site 95% UCL = 0.0037 mg/kg; 12 fish meals per month.

Dioxin-like PCBs site 95% UCL = 0.000005 mg/kg; no fish meals per month.

Clearly the dioxin-like PCBs are the limiting factor here, and this may warrant further discussion between the team.

Please let me know if you have any questions. I look forward to talking with everyone again soon.

v/r,

Jenn
