

M00263.AR.000615
MCRD PARRIS ISLAND
5090.3a

EMAIL REGARDING U S EPA REGION IV COMMENTS ON SCREENING LEVEL
ECOLOGICAL RISK ASSESSMENT FOR SITE 3 CAUSEWAY LANDFILL WITH
ATTACHMENTS MCRD PARRIS ISLAND SC
5/30/2008
U S EPA REGION IV

From: Koroma-Llamas.Lila@epamail.epa.gov
To: Sladic, Mark
Cc: meredith_amick; Sanford, Art F CIV EFDSOUTH; sommer_barker; Susan Byrd; charles.cook2@navy.mil; heber_pittman; [Diane Duncan \(E-mail\)](mailto:Diane Duncan (E-mail)); kelly_taylor; mac_mcrac; [tim_harrington \(email\)](mailto:tim_harrington_email); [Tom Dillon \(E-mail\)](mailto:Tom Dillon (E-mail)); [Priscilla Wendt \(E-mail\)](mailto:Priscilla Wendt (E-mail)); Barclift, David J CIV NAVFAC LANT; Beverly, Stephen A CIV NAVFAC SE; Whitten, Mike; koroma-llamas.lila@epa.gov
Subject: RE: MCRD PI Site 3 SERA path forward
Date: Friday, May 30, 2008 1:34:28 PM
Attachments: [Tech Memo Pathforward Email Feedback from EPA.doc](#)

Hi Mark,

Am out on sick leave again today. My son has been sick. But should be in next week, all week.

I look forward to hearing from Charles regarding the new submittal date.

When doing official document review, I utilize TechLaw to the degree possible. However, on policy and procedure type issues it is easier to informally consult within EPA. As I said, I ran the pathforward by my risk assessor, so obviously I used one (EPA for Human Health) and by Tom Dillon (for Eco). When we get a document I will decide who is to review, but will ensure they are aware of the feedback given regarding the pathforward, so there is no conflict. Did not recall you asking for a specific POC on this, but I can arrange a call if you would like one. That is always possible for any issue. However, it is important to remember that when we unofficially received the 2008 "draft" tech memo, we were immediately told not to review it since the the Navy and EPA had concerns. So neither Tim nor Tom reviewed the Tech Memo. Therefore, they looked at the pathforward with very little context within which to put it. I filled in the gaps when needed.

Between the time of the draft tech memo and the last meeting we discussed several issues that were impeding progress, and as a team agreed that a pathforward review would be a reasonable way to start resolution. Issues being discussed over time were, as I recall: use of EPA data, combination of old and new data, sufficiency of data, averaging of data, mercury at background as a driver using average concentrations, whole fish data .vs. fillet data, existence of frequent fishermen at Site 3, the likely need for fishing restrictions, enforcement of fishing restrictions, potential to obtain new data (sediment and/or surface water, maybe even fish tissue), resolution of conflicting statements regarding surface water in order to support "No Action" if appropriate, the need for the new tech memo to stand alone, etc. I felt many of these were not addressed in your pathforward, but as I said in my feedback, I had to assume based on your pathforward, that you no longer felt they were issues, or that it just was not time to bring them up. So I tried to limit my responses to what was necessary based on what you had in the pathforward. We will get to the others if and when they come up again. Let me know if we need a call.

Lila

-----"Sladic, Mark" <Mark.Sladic@tetrattech.com> wrote: -----

To: Lila Koroma-Llamas/R4/USEPA/US@EPA, "meredith amick" <amickMS@dhec.sc.gov>, "Sanford, Art F CIV EFDSOUTH" <art.sanford@navy.mil>, "sommer barker" <barkerjs@dhec.sc.gov>, "Susan Byrd" <BYRDSK@dhec.sc.gov>, <charles.cook2@navy.mil>, "heber pittman" <darrel.pittman@usmc.mil>, "Diane Duncan (E-mail)" <diane_duncan@fws.gov>, "kelly taylor" <Kelly.Taylor2@ch2m.com>, "Whitten, Mike" <Mike.Whitten@tetrattech.com>, "mac mcrac" <mmcrac@TechLawInc.com>, "tim harrington (email)"

<timothy.j.harrington@usmc.mil>, "Tom Dillon (E-mail)" <Tom.Dillon@noaa.gov>, "Priscilla Wendt (E-mail)" <wendtp@dnr.sc.gov>, Lila Koroma-Llamas/R4/USEPA/US@EPA
From: "Sladic, Mark" <Mark.Sladic@tetrattech.com>
Date: 05/30/2008 10:33AM
cc: "Barclift, David J CIV NAVFAC LANT" <david.barclift@navy.mil>, "Beverly, Stephen A CIV NAVFAC SE" <stephen.beverly@navy.mil>, "Whitten, Mike" <Mike.Whitten@tetrattech.com>
Subject: RE: MCRD PI Site 3 SERA path forward

Hi Lila. Here's an update on this project. We were originally positioned to distribute an updated Tech Memo today, based on the 5/9 proposed path forward which would have met our 5/30 due date based on the most recent extension letter. However, arrival of EPA's 5/28 comments (attached) on the path forward just two days before that due date will result in us not being able to make that due date while we consider EPA's comments and how they impact the path forward. In addition, we were optimistic that EPA would identify a risk assessment point of contact, which I don't think has happened yet (SERA and HHRA). Charles will be back in the office next week and will advise when we can confirm a new submittal date. Thanks.

Mark Sladic, P.E.
Project Manager
TETRA TECH NUS, Inc.
Telephone: (412) 921-8216
mark.sladic@tetrattech.com

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

From: Koroma-Llamas.Lila@epamail.epa.gov
[mailto:Koroma-Llamas.Lila@epamail.epa.gov]
Sent: Wednesday, May 28, 2008 2:06 PM
To: Sladic, Mark; meredith amick; Sanford, Art F CIV EFDSOUTH; sommer barker; Susan Byrd; charles.cook2@navy.mil; heber pittman; Diane Duncan (E-mail); kelly taylor; Whitten, Mike; mac mcrae; tim harrington (email); Tom Dillon (E-mail); Priscilla Wendt (E-mail); koroma-llamas.lila@epa.gov
Subject: Re: MCRD PI Site 3 SERA path forward

Hi Folks,

I have reviewed the RI, again, and the IROD, again, and looked at the 2008 unofficial draft tech memo (slightly), and spoke with DHEC (Meredith, as well as Water Quality enforcement folks), and consulted with my risk assessor and Tom Dillon, and have tried to align with David Buxbaum's expectations for the PP, and as a result of all this have prepared some feedback regarding the pathforward described in Mark's email below. For ease of comment, I copied the email text into a word document and added enlarged bold italicized text as feedback. See attached.

I have even more info regarding the mercury issue, and fish fillets .vs. whole fish, as well as fishing restrictions and enforcement, but at this point based on what Mark has in here and my feedback, I have left out the details of that. We will get to it if still necessary.

PLEASE, if there are still questions about what to do, lets talk before you put effort into the risk assessment tech memo rewrite for review and comment.

Thanks,

Lila

(See attached file: Tech Memo Pathforward Email Feedback from EPA.doc)

"Sladic, Mark"
<Mark.Sladic@tetrattech.com>

05/09/2008 03:19 PM

To
<charles.cook2@navy.mil>, "David M. Scaturro (E-mail)" <scaturdm@dhec.sc.gov>, "Debra Kraemer (E-mail)" <KRAEMERd@tampabay.rr.com>, "Diane Duncan (E-mail)" <diane_duncan@fws.gov>, "heber pittman" <darrel.pittman@usmc.mil>, "kelly taylor" <Kelly.Taylor2@ch2m.com>, Lila Koroma-Llamas/R4/USEPA/US@EPA, "mac mcrae" <mmcrae@TechLawInc.com>, "meredith amick" <mamickMS@dhec.sc.gov>, "Priscilla

Wendt (E-mail)"
<wendtp@dnr.sc.gov>, "Sanford,
Art F CIV EFDSOUTH"
<art.sanford@navy.mil>, "sommer
barker" <barkerjs@dhec.sc.gov>,
"Stacey French"
<FRENCHSL@dhec.sc.gov>, "tim
harrington (email)"
<timothy.j.harrington@usmc.mil >,
"Tom Dillon (E-mail)"
<Tom.Dillon@noaa.gov>

cc
"Whitten, Mike"
<Mike.Whitten@tetrattech.com>,
"Susan Byrd" <BYRDSK@dhec.sc.gov>
Subject
MCRD PI Site 3 SERA path forward

Good afternoon everyone. As part of our discussions on creating a suitable administrative record document to support Site 3 remedy selection, the Team previously agreed that the original plan of summarizing and documenting prior meeting decisions would be inadequate. Therefore, we were tasked with updating the numerical screening level ecological risk assessment (SERA). In order to facilitate the updated SERA, we were requested to provide this planned path forward for Team review. Please see below, and let Charles or I know if there are any issues. thanks.

BACKGROUND/SITE HISTORY: This section will summarize reports completed prior to remediation.

The original data (collected in 1988) will be briefly summarized. The 1999 RFI evaluated data collected in 1998-1999, and concluded that contaminant concentrations in four areas on the pond side of the causeway posed potential risks. Charles Cook has stated that he would like to see more summary tables in the section that summarizes the RFI.

The interim remedy resulting from the 2000 FS/CMS, and conducted from August 2000 to July 2001, will be summarized.

The Tech Memo will explain/summarize why soil, groundwater, and surface water are not being further evaluated.

POST REMEDIATION: The Navy (TNUS) collected 20 sediment samples in October 2001 (5 samples on the marsh side plus 15 samples on the pond side). The pond samples were dispersed among the four areas identified as posing potential risk in the 1999 RFI.

The Tech Memo will explain that the post-remediation data showed no significant risk (and thus, no further action) on the marsh side and in Areas 1-3. This will essentially be a summary of what was in the May 2002 "Post-Interim Construction Risk Assessment". The goal of this section will be to clearly show that NFA is appropriate for Areas 1-3 on the pond side and the entire marsh side.

The Tech Memo will explain/summarize that one sample in Area 4 had high concentrations of pesticides in 2002, and will provide a narrative description of the subsequent additional sampling done in 2003 by EPA in Area 4 to further assess potential risks in Area 4.

The additional EPA samples (3 samples collected in 2003) have not been formally evaluated. Therefore, the 2003 data will be subjected to a typical screening-level ecological risk assessment and will be conducted in accordance with DON and EPA guidelines. For some chemicals, it is anticipated that Step 3A of a baseline ecological risk assessment will be necessary. If so, this will also follow DON and EPA guidelines. The ecological risk assessment will include a comparison of the data to ecological screening values in order to evaluate risk to benthic invertebrates, and food chain modeling will be conducted (where applicable) to evaluate risk to fish, fish-eating birds, and fish-eating mammals from contaminants that are known to bioaccumulate. Step 3A will include a comparison of the data to basewide background concentrations.

The human health risk assessment in the March 2008 Tech Memo needs very few revisions; the suggestions of Charles Cook regarding the addition of summary tables will be implemented.

Differences between the 2002 data and the 2003 data will be discussed.

Conclusions regarding the 2002 and 2003 post remediation data will be presented. It is anticipated that the latest data will support a decision of NFA.

Mark Sladic, P.E. | Project Manager
Direct: 412.921.8216 | Main: 412.921.7090 | Fax: 412.921.4040
mark.sladic@tetrattech.com

Tetra Tech NUS, Inc
661 Andersen Drive Foster Plaza 7 | Pittsburgh, PA 15220 | www.ttnus.com

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then

delete it from your system.

BACKGROUND/SITE HISTORY: This section will summarize **finalized and approved administrative record** reports completed prior to remediation, **as well as the IROD**.

- The original data (collected in 1988) will be briefly summarized.
- The 1999 RFI evaluated data collected in 1998-1999, and concluded that contaminant concentrations in four areas on the pond side of the causeway posed potential risks. Charles Cook has stated that he would like to see more summary tables in the section that summarizes the RFI.
- The interim remedy resulting from the 2000 FS/CMS, and conducted from August 2000 to July 2001, will be summarized.
- The Tech Memo will explain/summarize why soil, groundwater, and surface water are not being further evaluated. ***(It should be fairly obvious what language will be in here for soil and groundwater. For surface water, we need to discuss the historical findings from the RI and reiterate the basis for no action on surface water at the time of the IROD. If the following is found to be true based on Navy review of the RI data, add text which is similar to this: For Human Health: The RI states that surface water is non-potable brackish saline water and therefore the pathway for drinking water is incomplete; The waters are posted no swimming/wading due to alligators and therefore the pathway for direct contact via recreational swimming/wading is incomplete; Explain that a construction worker was evaluated for exposure to SW and results showed no unacceptable risks related to SW; Now state that human health fish consumption was evaluated using actual fish tissue samples, as well as calculated fish tissue concentrations based on combined effects of sediments and surface water, and resulted in unacceptable risk which was addressed in the IROD via LUCs which prohibited subsistence fishing. For Eco Risk, reference Section 7.8.1 of the RI, make some summary type statements as noted for HH above, regarding the exceedances found based on combined effects of sediment and surface water. Then incorporate the last paragraph from that section into this background text. Follow that with a statement that the RI/FS recommended an action be taken for soils/wastes and sediments, which was expected to address the main contaminant contributors to eco risk.***

We also need to discuss the statements made in the IROD. Page 2-4, Section 2.4 of the IROD said “Surface water at the site has been slightly impacted by site contaminants. The proposed interim remedy will prevent future migration of contaminants from the soils and wastes to the surface water.” And Page 2-14 states that a remedial action objective of the IROD is to “Eliminate the migration of COCs from the fill material to sediment, surface water, and groundwater.” State that largely based on the transient nature of the surface water as described above, but also combined with all these other factors, it was determined that no action would be taken for surface water at the time of the IROD.

However, because Page 2-4, Section 2.4 also said “ The surface water of Site 3 will be further addressed with the remaining contaminated sediments” this risk assessment needs to support No Further Action on Sediments, and therefore, no action on surface water.

POST REMEDIATION: The Navy (TTNUS) collected 20 sediment samples in October 2001 (5 samples on the marsh side plus 15 samples on the pond side). The pond samples were dispersed among the four areas identified as posing potential risk in the 1999 RFI.

Now, the body of the risk assessment should present the supporting information for no further action for sediments. Due to the previously unacceptable risk from fish consumption calculated in the original RI, this risk assessment should also present a new risk assessment for fish consumption, however, the site-specific scenario should be adjusted based on the discovery of a new reasonable site-specific maximum (see below).

- The Tech Memo will explain that the post-remediation data showed no significant risk (and thus, no further action) on the marsh side and in Areas 1-3. This will essentially be a summary of what was in the May 2002 "Post-Interim Construction Risk Assessment". ***(The May 2002 document is not being reviewed. A summary of that document is inappropriate and not sufficient. Be sure the 2008 tech memo stands on its own and does not need to reference the 2002 Tech Memo.)*** The goal of this section will be to clearly show that NFA is appropriate for Areas 1-3 on the pond side and the entire marsh side.
- The Tech Memo will explain/summarize that one sample in Area 4 had high concentrations of pesticides in 2002, and will provide a narrative description of the subsequent additional sampling done in 2003 by EPA in Area 4 to further assess potential risks in Area 4.
- The additional EPA samples (3 samples collected in 2003) have not been formally evaluated. Therefore, the 2003 data will be subjected to a typical screening-level ecological risk assessment and will be conducted in accordance with DON and EPA guidelines. ***(Since you are addressing only Area 4 at this point, the newer data can be considered more relevant, so long as the number of samples is sufficient to conduct the RA with confidence. Using the EPA data, all COCs may be screened out at the screening level step. However, assuming calculations are necessary, please make a statement regarding the number of samples and the confidence level. Otherwise, combining the older Post IROD Area 4 data with the newer EPA Area 4 data would also be acceptable, if this gives you a higher level of confidence.)*** For some chemicals, it is anticipated that Step 3A of a baseline ecological risk assessment will be necessary. If so, this will also follow DON and EPA guidelines. The ecological risk assessment will include a comparison of the data to ecological screening values in order to evaluate risk to benthic invertebrates, and food chain modeling will be conducted (where applicable) to evaluate risk to fish, fish-eating birds, and fish-eating mammals from contaminants that are known to bioaccumulate. Step 3A will include a comparison of the data to basewide background concentrations ***in accordance with the guidance. (Was the background data set referenced in the Site 3 RI the "basewide background concentrations"? Or was there a specific background data set for Site 3 area? If so, use the background data set specific to Site 3.)***
- The human health risk assessment in the March 2008 Tech Memo needs very few revisions; the suggestions of Charles Cook regarding the addition of summary tables will be implemented. ***EPA agrees that summary tables are useful and should be included. However, EPA disagrees that the risk assessment in the March 2008 Tech Memo needs only a few revisions. Please revise as follows:***

- ***The current draft 2008 Tech Memo states that “Data compiled from samples collected during the 2001 and 2003 field investigations were used in the selection of COPCs.” Please explain if the EPA Area 4 data will be substituted for the Post IROD Area 4 data, or what. Will all areas still be assessed together as one data set? If for some reason Area 4 is being assessed by itself, all steps should be performed using the EPA data for Area 4 and/or the combined Post IROD Area 4 data and EPA data, whichever is consistent with the Eco assessment above. This may or may not make a difference in maximum and average concentrations, COPCs, screenings, tissue estimates, etc. Again, please make a statement regarding the number of samples and the confidence level if assessing just Area 4.***
- ***In Table 2-1: Use of EPA R3 RBCs for fish consumption is o.k.***
- ***In Table 2-3: The conservative scenario should remain the same. However, based on discoveries of a more frequent resident fisherman the site specific scenario needs to be adjusted. Based on interviews with Base personnel and the person responsible for krill enforcement, persons other than military personnel can and do fish at Site 3. Reports are that a person/group of people fish at Site 3 approximately two times per week, nearly every week of the year. These persons appear to be permanent residents of the Buford area, and likely related to military personnel. Therefore, EPA feels that this person/group should be used as a reasonable maximum site-specific receptor. EPA recommends the base interview the person of interest to make adjustments to the site-specific parameters. Otherwise, EPA is willing to negotiate parameters to be used. Please advise regarding your path forward on this.***
- ***Additionally, please explain why a child fish consumption scenario was not evaluated. Interviews may be helpful here as well for site-specifics.***
- ***Please explain if using the EPA data in lieu of Area 4 Post IROD data has eliminated mercury at background levels as a driver or not. If this is still an issue, please explain why this is not addressed in this path forward scoping text, since it was raised at the meetings several times.***
- ***Please clarify how non-detects are accounted for when calculating average contaminant concentrations. For non-detects, ½ the detection limit should be assumed.***
- ***If actual fish tissues are to be obtained and used, fillets should be assessed, as opposed to whole fish numbers.***
- ***EPA has done research into fishing restrictions and enforcement thereof. If fish restrictions are found to be necessary this can be discussed further.***

- Differences between the 2002 data and the 2003 data will be discussed.
- Conclusions regarding the 2002 and 2003 post remediation data will be presented. It is anticipated that the latest data will support a decision of NFA. **(For fish consumption?)**

In the Conclusions and Recommendations section I assume you will recommend No Further Action for Sediments. Then, as another conclusion and recommendation, you need to state that although the IROD stated that “surface water of Site 3 will be further addressed with the remaining contaminated sediments” this was found to not be necessary, largely due to the transient nature of surface water, but also coupled with the facts that the original RI showed minimal contamination in surface water, a previous remedial action was taken on sediments containing the same contaminants as a likely source, and that no further action is needed on sediments. Then make whatever conclusions and recommendations are appropriate for fish consumption.