From:	POULSEN Mike
To:	Eric Blischke/R10/USEPA/US@EPA; Chip Humphrey/R10/USEPA/US@EPA
Cc:	(b) (6) ; Dana Davoli/R10/USEPA/US@EPA; FARRER David G
Subject:	RE: Portland Harbor breast milk
Date:	04/07/2008 09:45 AM
Attachments:	20080407 DAVOLI Final Draft Proposed Approach for Breastfeeding and Health Consultation.doc

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Chip & Eric -

I incorporated Dana's revisions in the main memo after making a few minor edits. I think this is in good shape to send out for EPA review. After your approval, of course. I didn't have any comments on the cover memo.

- Mike

-----Original Message-----
From: Davoli.Dana@epamail.epa.gov [mailto:Davoli.Dana@epamail.epa.gov]
Sent: Saturday, April 05, 2008 3:52 PM
To: POULSEN Mike; FARRER David G; Blischke.Eric@epamail.epa.gov; Humph gov
Cc: (b) (6)
Subject: Re: Portland Harbor breast milk

(b) (6)
(b) (6) I have attached slightly edited versions of both the memo to the EPA reviewers (marked up version and edits accepted version) and Mike's technical write-up (marked up only). For the memo to reviewers, I added Mike's comments and a few more statements/questions about the health consultation. For the technical document, I added some language from RAGs defining chronic exposure (Mike, could you please add the footnote correctly and add the the RAGs reference which is on the reference page to the list of references). I also made some edits so that the document is using 1 ppm for resident fish as an example (as opposed to bass). It seemed a bit easier to read and flows nicely into the statement that compares the 1ppm to bass and carp fish data in PH. I do not feel strongly about this so you guys can ignore the the changes if want to. I am hoping that Mike and Dave can look these over and get any final comments to Chip and Eric as early as possible on Monday.

Chip and Eric, I would like to have one of you send this to the Region 10 group (RPMs and risk assessors) that has been involved in the Puget Sound Tribal Seafood Consumption Framework. As I mentioned in yesterday's e-mail to you both, the group is meeting on Thursday afternoon (April 10) and I would like to have a brief discussion at the end of the meeting on this issue (hopefully with all of you on the phone). It would be great if one of you could send the reviewers' memo and tech document/consult to the group by Tuesday. It doesn't have to be perfect as I am sure we will get comments on it. This is the mail group:

Allison Hiltner/R10/USEPA/US@EPA, Charles Ordine/R10/USEPA/US@EPA, Christy Brown/R10/USEPA/US@EPA, Dana Davoli/R10/USEPA/US@EPA, Erika Hoffman/R10/USEPA/US@EPA, Howard Orlean/R10/USEPA/US@EPA, Julius Nwosu/R10/USEPA/US@EPA, Lori Cohen/R10/USEPA/US@EPA, Marc Stifelman/R10/USEPA/US@EPA, Marcia Bailey/R10/USEPA/US@EPA, Michael Cox/R10/USEPA/US@EPA, Nancy Harney/R10/USEPA/US@EPA, Piper Peterson-Lee/R10/USEPA/US@EPA, Ravi Sanga/R10/USEPA/US@EPA, Rich McAllister/R10/USEPA/US@EPA, Rick Albright/R10/USEPA/US@EPA, Shawn Blocker/R10/USEPA/US@EPA, Sheila Eckman/R10/USEPA/US@EPA, Lon Kissinger/R10/USEPA/US

Lon is in hcarge of setting up the meetings and I have asked him to add this topic.

I will have my cell with me so you can call me at (b) (6) to discuss this.

Also below is some language from the SSL guidance that I found interesting:

EPA Soil Screening Guidance: Technical Background Document (http://www.epa.gov/superfund/health/conmedia/soil/introtbd.htm)

2.2 Direct Ingestion
Calculation of SSLs for direct ingestion of soil is based on the methodology presented for residential land use in RAGS HHEM, Part B (U.S. EPA, 1991b). Briefly, this methodology backcalculates a soil concentration level from a target risk (for carcinogens) or hazard quotient (for noncarcinogens). A number of studies have shown that inadvertent ingestion of soil is common among children 6 years old and younger (Calabrese et al., 1989; Davis et al., 1990; Van Wijnen et al., 1990). Therefore, the approach uses an age-adjusted soil ingestion factor that takes into account the difference in daily soil ingestion rates, body weights, and exposure duration for children from 1 to 6 years old and others from 7 to 31 years old. The higher intake rate of soil by children and their lower body weights lead to a lower, or more conservative, risk-based concentration compared to an adult-only assumption. RAGS HHEM, Part B uses this age-adjusted approach for both noncarcinogens and carcinogens. For noncarcinogens, the definition of an RfD has led to debates concerning the comparison of lessthan- lifetime estimates of exposure to the RfD. Specifically, it is often asked whether the comparison of a 6-year exposure, estimated for children via soil ingestion, to the chronic RfD is unnecessarily conservative.

In their analysis of the issue, the SAB indicates that, for most chemicals, the approach of combining the higher 6-year exposure for children with chronic toxicity criteria is overly protective (U.S. EPA, 1993e). However, they noted that there are instances when the chronic RfD may be based on endpoints of toxicity that are specific to children (e.g., fluoride and
nitrates) or when the doseresponse
curve is steep (i.e., the dosage difference between the no-observed-adverse-effects level [NOAEL] and an adverse effects level is small). Thus, for the purposes of screening, OERR opted to base the generic SSLs for noncarcinogenic contaminants on the more conservative "childhood only" exposure (Equation 1). The issue of whether to maintain this more conservative approach throughout the baseline risk assessment and establishing remediation goals will depend on how the toxicology of the chemical relates to the issues raised by the SAB.

For noncarcinogens, averaging time is equal to exposure duration. Unlike RAGS HHEM, Part B, SSLs are calculated only for 6-year childhood exposure.

For carcinogens, both the magnitude and duration of exposure are important. Duration is critical because the toxicity criteria are based on "lifetime average daily dose." Therefore, the total dose received, whether it be over 5 years or 50 years, is averaged over a lifetime of 70 years. To be protective of exposures to carcinogens in the residential setting, RAGS HHEM, Part B (U.S. EPA,
1991b) and EPA focus on exposures to individuals who may live in the same residence for a "highend" period of time (e.g., 30 years). As mentioned above, exposure to soil is higher during childhood and decreases with age. Thus, Equation 2 uses the RAGS HHEM, Part B time-weighted average soil ingestion rate for children and adults; the derivation of this factor is shown in Equation 3.

(See attached file: 20080405 DAVOLI Final Draft of Letter to Reviewers.doc)(See attached file: 20080405 DAVOLI EDITS ACCEPTED Final Draft of Letter to Reviewers.doc)

(See attached file: 20080405 DAVOLI Final Draft Proposed Approach for Breastfeeding and Health Consultation .doc)