To: Wands, James[James.Wands@hdrinc.com]
Cc: Garland, Edward[Edward.Garland@hdrinc.com]; John Connolly[jconnolly@anchorqea.com]; Peter Oates[poates@anchorqea.com]; Wen Ku[wku@anchorqea.com]; Rooni Mathew[RMathew@moffattnichol.com]; Rafael Canizares[RCanizares@moffattnichol.com]; Robert Law[rlaw@demaximis.com]; Vaughn, Stephanie[Vaughn.Stephanie@epa.gov]; Naranjo, Eugenia[Naranjo.Eugenia@epa.gov]; Yeh, Alice[Yeh.Alice@epa.gov]
From: Peter Israelsson
Sent: Fri 9/13/2013 9:28:24 PM
Subject: RE: Request for LPR CFT Model inputs / code

James –

Thank you for this information, and for the efforts to pull together the model input files.

Regards,

Peter

Peter H. Israelsson, PhD

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From: Wands, James [mailto:James.Wands@hdrinc.com]
Sent: Friday, September 13, 2013 2:55 PM
To: Peter Israelsson
Cc: Garland, Edward; John Connolly; Peter Oates; Wen Ku; Rooni Mathew; Rafael Canizares; Robert Law; Vaughn, Stephanie (Vaughn.Stephanie@epa.gov); Naranjo, Eugenia (Naranjo.Eugenia@epa.gov); Yeh, Alice (Yeh.Alice@epa.gov)
Subject: RE: Request for LPR CFT Model inputs / code

Peter,

Sorry I missed your call the other day. I am just trying to verify a couple of things on our end before sending the inputs. As far as the homologue boundaries and other contaminants are concerned, they would be computed based on the following:

POC is computed for the tributaries using the NSL approach modified for POC, referred to in the CARP report as NPL.

NPL Parameters:

		Hackensack	Passaic	Saddle
Qm		91.5	1137	99.8
Lm		8.1	2	0.2
Non-Flood	n	1.2996	0.826	1.2316
	a	-1.11	0.0019	0.0773
Flood	n	1.7933	1.6203	1.2316
	a	-1.26	-0.2373	0.0773

Contaminant concentrations were computed as Tot = Diss + POC * Part, from the table below. Some of these values have been modified since the CARP report. You can refer to the CARP report for further details on the approach (http://carpweb.org/main.html).

RCATOX Head of Tide Concentrations for Measured Tributaries

	Passaic		Saddle		Hackensack		Elizabeth		Rahway	
Chemical	**Diss. (ng/L)**	**Part. (µg/g-OC)**	**Diss. (ng/L)**	**Part. (µg/g-OC)**	**Diss. (ng/L)**	**Part. (µg/g-OC)**	**Diss. (ng/L)**	**Part. (µg/g-OC)**	**Diss. (ng/L)**	**Part. (µg/g-OC)**
2,3,7,8-TCDD	8.00E-07[3]	4.41E-05[3]	4.46E-05[3]	3.00E-05[3]	1.13E-05[2]	7.62E-06	1.13E-05[2]	7.62E-06	1.13E-05[2]	7.62E-06
1,2,3,4,7,8-HxCDD	6.62E-06[2]	1.11E-04	6.62E-09[2]	3.42E-08[1]	6.62E-06[2]	3.42E-05	6.62E-06[2]	1.47E-04	6.62E-06[2]	8.96E-05
1,2,3,6,7,8-HxCDD	4.10E-06[2]	3.07E-04	4.10E-09[2]	7.98E-08[1]	4.10E-06[2]	7.98E-05	4.10E-06[2]	3.94E-04	4.10E-06[2]	2.02E-04
1,2,3,7,8,9-HxCDD	2.73E-06[2]	2.53E-04	2.73E-09[2]	7.05E-08[1]	2.73E-06[2]	7.05E-05	2.73E-06[2]	4.95E-04	2.73E-06[2]	2.11E-04
1,2,3,4,6,7,8-HpCDD	7.34E-04[2]	7.11E-03	7.34E-07[2]	1.94E-06[1]	7.34E-04[2]	1.94E-03	7.34E-04[2]	7.79E-03	7.34E-04[2]	5.08E-03

OCDD	1.82E-03[2]	1.28E-01	1.82E-06[2]	2.40E-05[1]	1.82E-03[2]	2.40E-02	1.82E-03[2]	8.71E-02	1.82E-03[2]	8.21E-02
1,2,3,7,8-PeCDD	4.45E-06[2]	7.11E-05	4.45E-09[2]	1.23E-08[1]	4.45E-06[2]	1.23E-05	4.45E-06[2]	1.66E-04	4.45E-06[2]	6.60E-05
1,2,3,7,8-PeCDF	3.74E-06[2]	1.56E-04	3.74E-09[2]	9.91E-09[1]	3.74E-06[2]	9.91E-06	3.74E-06[2]	1.87E-04	3.74E-06[2]	1.84E-04
1,2,3,7,8,9-HxCDF	6.00E-06[2]	1.56E-05	6.00E-09[2]	3.88E-09[1]	6.00E-06[2]	3.88E-06	6.00E-06[2]	3.88E-06	6.00E-06[2]	3.88E-06
2,3,4,6,7,8-HxCDF	2.06E-06[2]	1.22E-04	2.06E-09[2]	3.65E-08[1]	2.06E-06[2]	3.65E-05	2.06E-06[2]	2.11E-04	2.06E-06[2]	1.04E-04
1,2,3,4,7,8,9-HpCDF	1.41E-06[2]	2.24E-04	1.41E-09[2]	4.56E-08[1]	1.41E-06[2]	4.56E-05	1.41E-06[2]	3.65E-04	1.41E-06[2]	8.30E-05
2,3,7,8-TCDF	1.10E-05[2]	3.73E-04	1.10E-08[2]	7.44E-08[1]	1.10E-05[2]	7.44E-05	1.10E-05[2]	3.48E-04	1.10E-05[2]	2.33E-04
2,3,4,7,8-PeCDF	1.50E-05[2]	1.25E-04	3.62E-05[3]	7.00E-05[3]	1.50E-05[2]	2.90E-05	1.50E-05[2]	4.38E-04	1.50E-05[2]	8.46E-05
1,2,3,4,7,8-HxCDF	5.15E-06[2]	2.50E-04	5.15E-09[2]	1.02E-07[1]	5.15E-06[2]	1.02E-04	5.15E-06[2]	4.86E-04	5.15E-06[2]	2.14E-04
1,2,3,6,7,8-HxCDF	1.90E-06[2]	3.46E-04	1.90E-09[2]	6.26E-08[1]	1.90E-06[2]	6.26E-05	1.90E-06[2]	5.96E-04	1.90E-06[2]	2.16E-04
1,2,3,4,6,7,8-HpCDF	2.17E-04[2]	2.41E-03	2.17E-07[2]	6.57E-07[1]	2.17E-04[2]	6.57E-04	2.17E-04[2]	3.02E-03	2.17E-04[2]	1.63E-03
OCDF	2.42E-05[2]	8.52E-03	2.42E-08[2]	1.34E-06[1]	2.42E-05[2]	1.34E-03	2.42E-05[2]	4.77E-03	2.42E-05[2]	2.98E-03
di-PCB	3.05E-01[3]	1.33E-01[3]	1.03E-01[3]	8.64E-02[3]	7.50E-03	6.35E-03	1.18E+00	1.29E-01	2.93E-02	9.15E-03
tri-PCB	5.68E-01	4.60E-01	9.01E-02[1]	1.78E-02[1]	9.01E-02	1.78E-02	2.42E+00	1.44E+00	3.09E-01	1.74E-01
tetra-PCB	7.08E-01[3]	1.46E+00	3.94E-01[3]	5.00E-01[3]	1.30E-01	9.36E-02	1.01E+00	2.11E+00	4.20E-01	5.81E-01
penta-PCB	1.95E-01	1.43E+00	5.39E-02[1]	1.92E-01[1]	5.39E-02	1.92E-01	3.64E-01	1.69E+00	2.90E-01	1.37E+00
hexa-PCB	7.52E-02[3]	1.32E+00	9.27E-02[3]	7.00E-01[3]	1.67E-02	1.26E-01	3.03E-01	2.85E+00	9.81E-02	7.04E-01
mono-PCB	8.35E-02	3.65E-02	7.50E-03[1]	6.35E-03[1]	7.50E-03	6.35E-03	1.18E+00	1.29E-01	2.93E-02	9.15E-03
hepta-PCB	9.23E-03	3.40E-01	4.69E-03[1]	6.19E-02[1]	4.69E-03	6.19E-02	1.16E-01	2.32E+00	2.43E-02	3.15E-01
octa-PCB	2.10E-03[3]	1.97E-01[3]	5.59E-02[3]	8.00E-02[3]	1.37E-02	1.96E-02	1.71E-02	6.06E-01	3.89E-03	1.01E-01
nona-PCB	3.31E-03[1]	2.96E-02	3.31E-03[1]	3.35E-03[1]	3.31E-03	3.35E-03	9.50E-04	6.65E-02	3.53E-04	1.33E-02
deca-PCB	3.31E-03[1]	2.96E-02	3.31E-03[1]	3.35E-03[1]	3.31E-03	3.35E-03	9.50E-04	6.65E-02	3.53E-04	1.33E-02
BZ#77	3.24E-03	2.05E-02	1.04E-03[1]	1.26E-03[1]	1.04E-03	1.26E-03	5.12E-03	3.02E-02	3.38E-03	7.20E-03
BZ#81	9.44E-04	8.18E-04	1.60E-03[1]	2.67E-04[1]	1.60E-03	2.67E-04	1.64E-03	1.06E-03	1.56E-03	1.84E-04
BZ#105	1.00E-02	7.74E-02	4.38E-03[1]	8.42E-03[1]	4.38E-03	8.42E-03	1.21E-02	1.21E-01	1.03E-02	4.04E-02

BZ#114	1.02E-03	6.91E-03	6.84E-04[1]	7.04E-04[1]	6.84E-04	7.04E-04	1.47E-03	7.11E-03	1.09E-03	3.62E-03
BZ#118	2.26E-02	1.55E-01	1.02E-02[1]	2.03E-02[1]	1.02E-02	2.03E-02	2.79E-02	2.83E-01	2.26E-02	9.83E-02
BZ#123	9.57E-04	3.47E-03	6.95E-04[1]	5.27E-04[1]	6.95E-04	5.27E-04	1.39E-03	5.09E-03	7.79E-04	2.29E-03
BZ#126	9.72E-04	1.35E-03	6.90E-04[1]	4.98E-04[1]	6.90E-04	4.98E-04	1.53E-03	3.91E-03	1.02E-03	5.29E-04
BZ#156	8.35E-04	1.72E-02	1.34E-03[1]	2.60E-03[1]	1.34E-03	2.60E-03	2.28E-03	7.28E-02	1.69E-03	1.26E-02
BZ#157	1.12E-03	4.26E-03	1.41E-03[1]	6.08E-04[1]	1.41E-03	6.08E-04	1.49E-03	5.25E-03	7.77E-04	2.55E-03
BZ#167	5.13E-04	7.70E-03	1.43E-03[1]	1.21E-03[1]	1.43E-03	1.21E-03	1.73E-03	3.62E-02	9.18E-04	6.16E-03
BZ#169	1.19E-03	1.32E-03	1.56E-03[1]	4.58E-04[1]	1.56E-03	4.58E-04	1.53E-03	2.66E-03	9.31E-04	2.73E-04
BZ#189	7.32E-04	1.53E-03	1.23E-03[1]	5.42E-04[1]	1.23E-03	5.42E-04	1.01E-03	1.47E-02	8.68E-04	1.28E-03
2,4'-DDD	5.00E-02	1.80E-01	3.40E+01	2.60E-02[1]	3.40E-02	2.60E-02	1.30E-01	2.90E-01	1.90E-01	2.40E-01
2,4'-DDE	2.40E-03	7.50E-02	7.30E+00	1.30E-02[1]	7.30E-03	1.30E-02	1.50E-02	4.60E-02	1.20E-02	2.30E-02
2,4'-DDT	2.60E-02	1.80E-01	4.00E+01	3.60E-02[1]	4.00E-02	3.60E-02	5.60E-02	1.90E-01	3.00E-02	7.80E-02
4,4'-DDD	4.80E-02	2.00E-01	3.00E+01	4.00E-02[1]	3.00E-02	4.00E-02	3.40E-01	7.50E-01	2.10E-01	8.10E-01
4,4'-DDE	6.90E-02	3.30E-01	1.00E+02	6.10E-02[1]	1.00E-01	6.10E-02	1.30E-01	5.90E-01	1.80E-01	5.00E-01
4,4'-DDT	2.30E-02	4.10E-01	1.50E+01	6.20E-02[1]	1.50E-02	6.20E-02	1.90E-01	7.40E-01	7.80E-02	3.90E-01
Cd	5.41E+01	3.70E+07	1.30E+01	1.72E+07	1.30E+01	1.72E+01	1.01E+07	2.47E+01	2.53E+01	2.47E+01
Hg	1.08E+00	6.55E+00	6.40E-01[1]	1.89E+00	6.40E-01	1.89E+00	8.05E+01	2.12E+01	3.65E+00	5.22E+00
MeHg	5.80E-02	0.00E+00	1.40E-02[1]	0.00E+00	1.40E-02	0.00E+00	2.81E-02	0.00E+00	8.95E-02	0.00E+00

1. Hackensack Substituted

2. Mohawk Substituted

3. Revised for FFS

Regards,

James

From: Peter Israelsson [mailto:pisraelsson@anchorqea.com]
Sent: Friday, August 23, 2013 10:47 AM
To: Wands, James
Cc: Garland, Edward; John Connolly; Peter Oates; Wen Ku; Rooni Mathew; Rafael Canizares; Robert Law; Vaughn, Stephanie (Vaughn.Stephanie@epa.gov); Naranjo, Eugenia (Naranjo.Eugenia@epa.gov); Yeh, Alice (Yeh.Alice@epa.gov); Garland, Edward
Subject: RE: Request for LPR CFT Model inputs / code

Hi James –

Thanks for the reply. We can skip the follow-up call if you think the request is clear as stated.

It would be appreciated if you can send PCB homolog inputs as soon as possible, in advance of the other requested information, as these inputs are particularly critical to ongoing efforts.

With regard to the next collaboration meeting, I agree that this should be discussed soon. There has been some discussion on our end about proposing a series of collaboration meetings to go over various modeling aspects, in response to recommendations provided by EPA HQ during a July meeting with the CPG. I believe that a proposal will be sent out shortly, which should prompt the scheduling for our next meeting.

Have a good weekend,

Peter

Peter H. Israelsson, PhD

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From: Wands, James [mailto:James.Wands@hdrinc.com]
Sent: Thursday, August 22, 2013 10:45 AM
To: Peter Israelsson
Cc: Garland, Edward; John Connolly; Peter Oates; Wen Ku; Rooni Mathew; Rafael Canizares; Robert Law; Vaughn, Stephanie (Vaughn.Stephanie@epa.gov); Naranjo, Eugenia (Naranjo.Eugenia@epa.gov); Yeh, Alice (Yeh.Alice@epa.gov); Garland, Edward
Subject: RE: Request for LPR CFT Model inputs / code

Peter,

I think what you have outlined below is clear. I don't know that we would need to have a call to discuss it. We should be able to compile the requested information and get that to you in September.

It would probably be a good time to start to think about when we will get together next for a collaboration meeting as well, since most of the invite list is already on this email.

Regards,

James

From: Peter Israelsson [mailto:pisraelsson@anchorqea.com]
Sent: Tuesday, August 20, 2013 8:01 AM
To: Wands, James
Cc: Garland, Edward; John Connolly; Peter Oates; Wen Ku; Rooni Mathew; Rafael Canizares; Robert Law
Subject: Request for LPR CFT Model inputs / code

Hello James –

I am transmitting below a request for inputs and code updates for the LPR CFT model. Is there a time in the next couple of days that I can call you to review the content of the request? Please let me know if you have any questions or concerns in the meantime.

Thanks,

Peter

Request for LPR CFT Model Files:

The CPG Modeling Team is using CFT model inputs and code that were received from HQI/EPA in 2011 and 2012. To ensure that our work reflects the most recent EPA efforts, we request the latest model inputs for all the COPCs being modeled by EPA, as well as the latest version of the RCATOX code. The details of our request are provided below, along with a listing of what we received in the past.

Model Inputs:

- The CPG has received model inputs for the following chemicals:

  - 2378-TCDD, 123789-HxCDD, 123478-HxCDD, 123678-HxCDD, 1234678-HpCDD and OCDD (received on 4/18/2012)

  - 12 coplanar PCB congeners (2/29/2012)

  - Hg, Cd and MeHg (12/15/2011)

- The CPG requests a full suite of RCATOX inputs for the above COPCs, if updates have been made since the last transmittal, and any other COPCs being modeled.

- The most time critical information is for the PCB homologs and mercury

- Specific files include:

  - input

- file_pc
- file_bc
- file_atm
- file_ps
- file_nps
- file_ic
- file_sedic.inp

We would like these inputs for both the calibration period and the projection period.

Model Code:

•□□□□□□□□ We are working with the RCATOX code version transmitted to the CPG in April 2012.

•□□□□□□□□ EPA/HQI has indicated in past conversations that the code has subsequently undergone minor revision. It would be helpful to get the most recent code.

Documentation:

•□□□□□□□□ It would be helpful to receive an updated explanation of EPA's approach to derive the chemical boundary conditions. Based on past conversations with HQI, it is our understanding that the information provided in the 2007 CARP report is not up to date, and CPG presently relies on EPA chemical boundary conditions.

Peter H. Israelsson, PhD

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