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Memorandum

From: Paul Craffey, BWSC

To: File

Subject: Status Update - TSCA Determination and PCB Concentrations
Navigational CAD Cells Constructed Under the State Enhanced Remedy in New Bedford Harbor

Date: June 1, 2015

As part of the state enhanced remedy for the New Bedford Harbor site, confined aquatic disposal (CAD) cells were to be constructed for the management of sediments that would be removed during the navigational dredging. In consideration that the dredged sediments potentially could contain PCB concentrations greater than or equal to (≥) 50 parts per million (ppm), it was concluded that a federal TSCA determination under 40 CFR Part 761 would be required for disposal of the dredged sediments into the CAD cells.

Status of Work

To date, the State Enhanced Remedy (SER) navigational dredging authorized under EPA's Record of Decision of September 25, 1998, has utilized four CAD cells. These include the Borrow Pit CAD Cell, which was an existing depression in New Bedford Harbor, and CAD Cells #1, 2, and 3.

The Borrow Pit CAD Cell and CAD Cell #1 have been filled and were capped in January 2014. CAD #2 and #3 are currently being filled with material from the Interim Federal Channel Dredging (IFCD) project as described in the TSCA Determination modification dated December 5, 2014. The IFCD project may optionally include placement of dredge material from Areas 21 and 22 (adjacent to State Pier) into CAD #3.

Note, even after the current dredging project is completed, CAD Cells #2 and #3 may have additional disposal capacity that will be utilized at some future date.

TSCA Status Report

Three TSCA Determinations have been issued by EPA: dated January 12, 2005; November 12, 2008; and November 19, 2012. The January 12, 2005 Determination includes the filling of the Borrow Pit CAD Cell and the construction and filling of CAD Cell #1, from various navigational dredging projects. The November 12, 2008 Determination, with modification of June 18, 2012, includes the construction and filling of CAD Cell #2, from various navigational dredging projects. The November 19, 2012 Determination, with modifications of September 30, 2013 and December 5, 2014, includes construction and filling of CAD Cell # 3 from various navigational dredging projects.

The TSCA determinations by EPA concluded that disposal of PCB contaminated sediments in the specified CAD cells would not pose an unreasonable risk to human health or the environment provided that certain conditions were met, which included but were not limited to, compliance with construction performance standards, and water quality and turbidity performance standards. Monitoring was performed during the navigational dredging and to date has demonstrated compliance with required dredging performance standards.

The following tables provide an updated summary of data associated with the Borrow Pit CAD cell and CAD Cells #1, 2 and 3 with respect to the origin of dredge materials placed in each cell, the volumes of the placed materials, and the associated PCB contaminant levels with each volume.

PCB Concentration Ranges in Borrow Pit CAD Cell and Dredge Locations

Dredge Location	Est. Final Volume Dredged (cubic yards)	PCB Pre-Dredge Conc. Average [1,2] (ppm)	PCB Pre-Dredge Conc. Range (ppm)	Total Number of Samples	Samples $\geq$ 50 ppm	Post-Dredge Conc.[3] (ppm)
Fish Island North	12,501	39	0.5 - 77	7	77, 71, 59, & 74 ppm	3
Top of CAD Cell #1	19,731	14	2 - 52	6	52 ppm	Not Sampled (N/S)
Total in Cell	32,232	23.7[4] (Avg. in Cell)	0.5 - 77	13		

[1] Concentration averages were determined by averaging total number of samples at each location.

[2] Sediment PCB concentrations were obtained from EPA 2002 and Apex 2010 pre-dredge sampling data.

[3] Post-dredge conc. was not required. One sample was typically collected at each dredged location.

[4] The Total Cell conc. average was determined by a weighted average of the total of each location.

PCB Concentration Ranges in CAD Cell #1 and Dredge Locations

Dredge Location	Est. Final Volume Dredged (cubic yards)	PCB Pre-Dredge Conc. Average [1,2] (ppm)	PCB Pre-Dredge Conc. Range (ppm)	Total Number of Samples	Samples $\geq$ 50 ppm	Post-Dredge Conc.,[3] (ppm)
White Terminal	11,604	23	0.5 - 46	2		2
Marine Terminal	1,784	34	0.5 - 68	8	68 ppm	3
Federal Channel South of Route 6	5,430	41	0.5 - 81	10	54, 61, 70, 75, 81 ppm	2
Pease Park	5,038	1	0.2 - 3	2		1
Linberg Marine	4,297	1	0.6 - 2	2		1
Niemiec Marine	821	23	23	1		0.4
Kelly & Son	10,436	2	0.7 - 3	2		1
Warren Alexander	401	5	5	1		1
Top of CAD #2	34,210	26	26	1		N/S
Total in Cell #1	74,021	20.1[4] (Avg. in Cell)	0.2 - 81	29		

[1] Concentration averages were determined by averaging total number of samples at each location.

[2] Sediment PCB concentrations were obtained from EPA 2002 and Apex 2010 pre-dredge sampling data.

[3] Post-dredge conc. was not required. One sample was typically collected at each dredged location.

[4] The Total Cell conc. average was determined by a weighted average of the total of each location.

PCB Concentration Ranges in CAD Cell #2 and Dredge Locations

Dredge Location	Est. Final Volume Dredged (cubic yards)	PCB Pre-Dredge Conc. Average [1,2] (ppm)	PCB Pre-Dredge Conc. Range (ppm)	Total Number of Samples or Composited Locations	Samples $\geq$ 50 ppm	Post-Dredge Conc.[3] (ppm)
South Terminal	2,691	8	8	1		2
Union Warf	1,109	11	5 - 17	2		5
Tonnessen Park	1,266	22	22	1		0.03
Gifford St. Boat Ramp	10,880	7	7	1		2
Olde North Wharf	1,295	9	4 - 13	3		2
Warren Alexander	2,142	13	0.2 - 18	5		3
Olde North Wharf	108	5	4 - 13	3		2
Niemiec Marine	2,312	1	1	1		N/S
Fairhaven Shipyard	344	N/S	N/S	N/S		N/S
Linberg Marine	1,773	N/S	N/S	N/S		N/S
Packer Marine	2,288	59	57 - 61	2	57 & 61 ppm	0.1
Sawyer St Rowing[2]	4,190	Estimated 27 (see Note)[2]	(see Note)[2]	(see Note)[2]		12
Steamship Authority	5,686	13	7 - 18	2		3
Steamship Authority	16,695	0.2	0.21 – 0.23	2		0.2
Hurricane Barrier	1,100	0.048	0.036 – 0.061	2		N/S
AGM Marine	5,468	13.1	6.8-23.3	3		N/S
Top of CAD #3	31,101	22.54	0.21-40	7		N/S
IFCD outside Barrier	40,000[4]	9.01	6.68 – 10.52	3		N/S
Total in Cell #2	130,448[4]	12.8[5] (Avg. in Cell)	0.2 - 61	40		

[1] Concentration averages were determined by averaging total number of samples at each location.

[2] Sediment PCB concentrations were obtained from EPA 2002 and Apex 2010 pre-dredge sampling data, except for the Sawyer St. pre-dredge concentration. The Sawyer St. area actually dredged was smaller

than the area in the original planned dredged footprint. As a result of this change in size of this area, there was no pre-dredge PCB concentration from the dredged area. An estimated pre-dredge average concentration was calculated using sediment concentrations (7 sample locations) currently next to the Sawyer St. dredged area using EPA 2010 data.

[3] Post-dredge conc. was not required. One sample was typically collected at each dredged location.

[4] IFCD volumes placed in CAD Cells 2 and 3 are estimated, as the work is not yet complete.

[5] The Total Cell conc. average was determined by a weighted average of the total of each location.

PCB Concentration Ranges in CAD Cell #3 and Dredge Locations

Dredge Location	Est. Final Volume Dredged (cubic yards)	PCB Pre-Dredge Conc. Average (ppm)	PCB Pre-Dredge Conc. Range (ppm)	Total Number of Samples or Composited Locations	Samples $\geq$ 50 ppm	Post-Dredge Conc.[2,3] (ppm)
South Terminal	231,616	6.5	0.23-20.4	88		N/S
Top of EPA Phase #1 CAD	24,890	14.2	0.21 – 44	5		N/S
IFCD inside Barrier	18,401[4]	21.78	21.78 [1]	4		N/S
IFCD outside Barrier	41,425[4]	9.01	6.68 – 10.52	10		N/S
IFCD Areas 21 and 22	7,500[4]	26.62	0.03-50.5	14	50.5 ppm	N/S
Total in Cell #3	323,832[4]	8.7[5] (Avg. in Cell)				

[1] One sample composited from four discrete locations was submitted for laboratory analysis, and therefore, there is no PCB concentration range to be reported.

[2] Post-dredge conc. was not required. One sample was typically collected at each dredged location.

[3] The Top of CAD Cell post dredge was not sampled (N/S) because Suitability Determination sampling had previously been performed.

[4] IFCD volumes placed in CAD Cells 2 and 3 are estimated, as the work is not yet complete and Areas 21 and 22 are optional.

[5]The Total Cell conc. average was determined by a weighted average of the total of each location.