RETURN TO SER AR INDEX

From:	Habel, Mark L NAE
To:	Sneeringer, Paul J NAE; Keegan, Michael F NAE
Cc:	O"Donnell, Edward G NAE; Williams.Ann@epamail.epa.gov; Catri.Cynthia@epamail.epa.gov; Leclair.Jackie@epamail.epa.gov
Subject:	RE: South Terminal Project in New Bedford, MA - Maximum Design Vessel for New Bedford Harbor Federal Navigation Project. (UNCLASSIFIED)
Date:	Wednesday, October 24, 2012 1:11:44 PM

Classification: UNCLASSIFIED
Caveats: NONE

Paul: The intended loaded draft of the vessels proposed for use is important in determining not just channel depth, but channel width. The configuration of the vessel hull (keel or flat or in-between), and its distance from the bottom and side slopes of the channel is part of the input to determining channel design width factors such as bank suction, which are in part a function of the vessel's cross section relative to the channel's cross-section. The intended channel transit speed of the vessel is also critical. The use of tugs with respect to vessel movement outbound or inbound on an ebb tide v. a flood tide also needs to be stated. It may be necessary for the tugs to be on opposite sides of the vessel flood v. ebb or inbound v. outbound - which would mean that the tug beam and fender diameter need to be added to the vessel beam for computational purposes. What are the dimensions of the tugs (draft and beam)? What is the velocity of the tidal current. Do they intend to move only at high water or does transit schedule require movement on any tide. All these inputs must be known to make any engineering calculation. This is not a back-of-the-envelope calculation.

The 86-foot beam tankers that used to ply Chelsea Creek needed to play pitch and catch with their attendant tugs to get through the old 96-foot Chelsea Street Bridge opening. And every couple of years the bridge took a hit that put it out of use for repairs. I don't believe we would allow such a practice with the hurricane barrier gate, or allow a ship-tug pair to transit the 150-foot wide gate opening unless there was sufficient clearance alongside. So we need all the beams.

There is some history with small tankers passing the barrier gate back when the fuel terminal at New Bedford was still active. There may have even been some small cruise ships that used New Bedford for reprovisioning back in the 1990s. It would be helpful to know what the size of those vessels was as a check against what may be possible.

Also - overdredge allowance is not available for navigation. When you are dredging to X depth you need a pay elevation allowance to insure that the dredging contractor establishes your minimum design depth of X. For Corps projects if X is 15 feet or greater then the overdepth allowance is 2 feet. That will never give you X+2 as a result. It will only ensure that you get to X feet without a whole lot of shoal clearing after the last progress survey. So the overdredge depth can never be used in vessel safety or navigation design calculations.

Even with a one-way traffic situation (not present in the New Bedford Federal Channel with its fishing boat traffic) a vessel will need a maneuvering lane probably equal to about twice its beam, plus a bank clearance lane on either side each probably equal to about 60 to 80 percent of its beam. These are just rules of thumb - but that would mean the 225-foot width is not adequate for safe navigation of a 90-foot beam vessel with tug assistance. Anything more than that would require Civil Design to run calculations once the applicant provided answers to the questions above.

Mark L. Habel, Chief, Navigation Section
Planning Branch, Engineering-Planning Division
978-318-8871

-----Original Message-----
From: Sneeringer, Paul J NAE
Sent: Wednesday, October 24, 2012 11:59 AM
To: Keegan, Michael F NAE

Cc: O'Donnell, Edward G NAE; Williams.Ann@epamail.epa.gov; Catri.Cynthia@epamail.epa.gov; Leclair.Jackie@epamail.epa.gov; Habel, Mark L NAE
Subject: RE: South Terminal Project in New Bedford, MA - Maximum Design Vessel for New Bedford Harbor Federal Navigation Project. (UNCLASSIFIED)

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Mike:

I don't believe that draft will be problem for the proposed South Terminal Project. The current proposal is to dredge the new deepwater access channel to -30 feet mean lower low water ("MLLW") or -32 feet MLLW (with over dredge) and to maintenance dredge necessary portions of the New Bedford Harbor Federal Navigation Project ("FNP") turning basin to -30 feet MLLW. These depths appear consistent with the sill at the entrance to the hurricane barrier. Thanks again for your review.

Paul Sneeringer
(978) 505-9216

-----Original Message-----
From: Keegan, Michael F NAE
Sent: Wednesday, October 24, 2012 11:14 AM
To: Sneeringer, Paul J NAE
Cc: O'Donnell, Edward G NAE; Williams.Ann@epamail.epa.gov; Catri.Cynthia@epamail.epa.gov; Leclair.Jackie@epamail.epa.gov; Habel, Mark L NAE
Subject: RE: South Terminal Project in New Bedford, MA - Maximum Design Vessel for New Bedford Harbor Federal Navigation Project. (UNCLASSIFIED)

Paul,

We will try and check what the design vessel was when the project was authorized. In addition to having the length and the beam of the vessel folks have in mind you also need to know the draft. The sill at the gate is -30 feet. I would also be concerned if the wider channels now being proposed would impact the foundation of the barrier. I don't believe those were the channel widths when Apex did earlier engineering analyses.

Mike

-----Original Message-----
From: Sneeringer, Paul J NAE
Sent: Wednesday, October 24, 2012 10:59 AM
To: Keegan, Michael F NAE
Cc: O'Donnell, Edward G NAE; Williams.Ann@epamail.epa.gov; Catri.Cynthia@epamail.epa.gov; Leclair.Jackie@epamail.epa.gov
Subject: South Terminal Project in New Bedford, MA - Maximum Design Vessel for New Bedford Harbor Federal Navigation Project. (UNCLASSIFIED)

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Mike:

I am interested in finding out if any navigation studies have been done to determine a maximum design vessel that could utilize the New Bedford Harbor Federal Navigation Project ("FNP").

The EPA South Terminal Team recently received a number of REVISED submittals from the Commonwealth of Massachusetts (and Apex) for the South Terminal Project. The Commonwealth is

currently requesting permission to dredge up to a 225-foot wide deepwater dredge channel with an associated 100-foot wide tug boat channel in order to access the South Terminal Facility. They used a maximum design vessel (a 600-foot long cargo vessel with a 90-foot beam) as their rationale for needing a 225-foot wide deepwater channel.

The EPA team is currently trying to make a decision whether the 225-foot wide channel should be limited to the originally requested 175-foot wide channel. Do you have any information on maximum design vessels for the New Bedford Harbor FNP? Is there a realistic need to provide navigation access for a 600-foot long cargo vessel into New Bedford Harbor? or Is this size vessel not likely to be used in smaller commercial ports in the New England Region? Thanks for your review.

Paul Sneeringer
(978) 505-9216

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