1. Administrative Details

Proposal Name: Proposal to Modify the Houston-Galveston Navigation Channels Project to Maintain a Required Nominal Depth by Agency: Port of Houston Authority of Harris County, Texas

Locations: TX

Date Submitted: 08/20/2018

Confirmation Number: a02e1625-2a56-4672-921d-ba66d3662038

Supporting Documents

<table>
<thead>
<tr>
<th>File Name</th>
<th>Date Uploaded</th>
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</thead>
<tbody>
<tr>
<td>PHA 7001 Mod to Nominal Depth.pdf</td>
<td>08/20/2018</td>
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<tr>
<td>PHA 7001 mod HGNC nominal depth.pdf</td>
<td>08/20/2018</td>
</tr>
</tbody>
</table>
2. Provide the name of the primary sponsor and all non-Federal interests that have contributed or are expected to contribute toward the non-Federal share of the proposed feasibility study or modification.

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Letter of Support</th>
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<tbody>
<tr>
<td>Port of Houston Authority of Harris County, Texas (Primary)</td>
<td>The Port of Houston Authority is the non-federal sponsor of the ship channel area of the proposed project modification. The proposed modification to the existing project will help overcome the long recognized and well-documented sudden lowering of water levels in the bay reach from atmospheric conditions throughout the year. As a result of conditions and published annual warnings by the U.S. Coast Guard and harbor pilots, shippers must plan for light loading of vessels more than five months each year. As this condition creates a significant adverse navigation restriction, the relief of this condition as a necessary channel maintenance feature is fully supported by the Port Authority and maritime industries of the Port of Houston, including shippers, terminal operators, agents, and regional economic alliances.</td>
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</table>

3. State if this proposal is for a feasibility study, a modification to an authorized USACE feasibility study or a modification to an authorized USACE project. If it is a proposal for a modification, provide the authorized water resources development feasibility study or project name.

4. Clearly articulate the specific project purpose(s) of the proposed study or modification. Demonstrate that the proposal is related to USACE mission and authorities and specifically address why additional or new authorization is needed.

The purpose of this proposed modification to the Houston-Galveston Navigation Channels project is to provide the nominal depth necessary for the safe passage of vessels at the authorized depth of the project. This request supports project operation and maintenance requirements cited at 33 USC 2241. The Houston-Galveston navigation project was authorized in WRDA 1996 at 45 feet MLT. After conversion to MLLW datum, the upper channel serving vessels is maintained at 46.5 feet MLLW while the entrance channel is maintained at the shallower 46 feet MLLW. Additionally, the construction of the channel project did not account for the periodic atmospheric lowering of water levels through the 30-mile Galveston Bay reach which reduces permitted vessel drafts by 2’ to 4’, so much so as to obliterate all tidal effects in the bay. This loss of water level and the resulting impact to navigation can occur in a matter of hours from strong northerly winds, which is the predominate wind direction during winter months and overall for five months of the year. The sudden and unpredictable loss of sailing draft can create unsafe navigation conditions including groundings, result in shipping delays and channel congestion, and impact operations along the over 40 miles of channels.
5. To the extent practicable, provide an estimate of the total cost, and the Federal and non-Federal share of those costs, of the proposed study and, separately, an estimate of the cost of construction or modification.

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>Non-Federal</th>
<th>Total</th>
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<tbody>
<tr>
<td>Study</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
<td>$2,000,000</td>
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<tr>
<td>Construction</td>
<td>$72,700,000</td>
<td>$24,300,000</td>
<td>$97,000,000</td>
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</table>

Explanation (if necessary)

The cost information is based on current feasibility cost estimates by the Corps for the HSC Expansion Channel Improvement Project (current study) and recent HSC construction and maintenance dredging projects on the channels in Galveston Bay, including contingencies.
To the extent practicable, describe the anticipated monetary and nonmonetary benefits of the proposal including benefits to the protection of human life and property; improvement to transportation; the national economy; the environment; or the national security interests of the United States.

Maintaining the ship channel to a nominal depth for the authorized project will improve navigation efficiency, optimize vessel load planning for the channel with the second highest tonnage and largest foreign tonnage ranking in the U.S. Because vessels must light load in anticipation of unexpected draft limits or plan for delayed entry or exit from the port, the project could avoid an economic impact to shippers estimated at $102,000,000 annually. Port of Houston is ranked first in the nation for foreign tonnage and exports, and second in total tonnage. This project would promote international competitiveness of products originating in Houston, including refined petroleum, U.S. crude exports, containerized products (including export plastic resin). When light loading is reduced, fewer vessels would call for the same tonnage. This will result in less congestion, lower marine emissions, reduced risk from accidents and product spills, particularly in the 30-mile reach through Galveston Bay, one of the most productive and valuable fisheries in the U.S.
7. Does local support exist? If 'Yes', describe the local support for the proposal.

[✓] Yes

**Local Support Description**

The Port Authority works closely with all maritime industry and stakeholders for the Port of Houston. Availability of the ship channel and avoidance of draft restrictions are critical to efficient commerce. Industry fully supports measures by the Corps to better assure the availability for safe passage of ships at the authorized channel depth.

8. Does the primary sponsor named in (2.) above have the financial ability to provide for the required cost share?

[✓] Yes
Primary Sponsor Letter of Support

(This is as uploaded, a blank page will show if nothing was submitted)
August 20, 2018

Colonel Lars Zetterstrom
Commander, Galveston District
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Subject: Letter of Support for Section 7001 Proposal to Modify the Houston-Galveston Ship Channel to Maintain a Required Nominal Depth

Dear Colonel Zetterstrom,

The purpose of this letter is to express the support of the Port of Houston Authority for operating and maintaining the Houston Ship Channel at a sufficient nominal depth to enable safe passage of vessels operating at the authorized depth.

The Port of Houston Authority is the non-federal sponsor of the ship channel area of the proposed project modification. This request supports project operation and maintenance requirements cited at 33 USC 2241. The proposed modification to the existing project will help overcome the long recognized sudden lowering of water levels in the bay reach from atmospheric conditions throughout the year, which has been well documented by the Corps and other agencies. As a result of conditions and published annual warnings by the U.S. Coast Guard and harbor pilots, shippers must plan for light loading of vessels more than five months each year. As this condition creates a significant adverse navigation limitation, the relief of this condition as a necessary channel maintenance feature is supported by maritime industry of the port, including shippers, terminal operators, agents, and regional economic alliances.

Over 8,300 deep draft vessels annually call on the Port of Houston, which is the largest port for foreign tonnage and the second largest by total tonnage in the U.S. A large fraction of commerce is carried by oil tankers and container ships with design drafts at or greater than the authorized channel; those vessels are efficient and sail economically only when loaded to full capacity for the designed service or ship call. This light loading results in an annual impact to commerce of over $102,000,000.
This letter is not a commitment for funding the proposed project modification. That commitment can only be made when a Federal Cost Share Agreement with USACE is executed by the Port Authority. The Port Authority will continue to provide staff assistance to USACE efforts to advance the proposal, including providing supplemental information as may be necessary or useful.

The Port Authority looks forward to continuing our work on this project with your staff in order to achieve safe and efficient navigation on the Houston Ship Channel.

Sincerely,

[Signature]

Roger Guenther
Executive Director
Map Document

(This is as uploaded, a blank page will show if nothing was submitted)
PHA 7001 mod HGNC nominal depth .pdf
Proposed modification to Houston-Galveston Navigation Channels Project for increases to achieve nominal depth

SWG EIS, Bayport Ship Channel:
“Changes in wind direction and barometric pressure that occur during passage of northern cold fronts can reduce water levels in the bay...obliterating tidal effects. Water level changes in the upper Galveston Bay can exceed 3 feet in a few hours”