

FREERPORT HARBOR, TEXAS CHANNEL IMPROVEMENT PROJECT

28 June 2011

(Also see follow-up CWRB 23 August 2012)



ABSTRACT: Freeport Harbor is a federally constructed deep-draft channel that serves the Port of Freeport, located along the Gulf coast in southeast Texas. Port Freeport is the non-Federal sponsor. The existing waterway consists of a jettied entrance channel, 47 to 45 feet deep and 400 feet wide from the Gulf of Mexico; a main channel 45 feet deep and 400 feet wide; a Brazos Harbor channel

36 feet deep and 200 feet wide; and a deauthorized Stauffer Channel 30 feet deep and 200 feet wide.

The study focused on providing a more effective, safe, and efficient waterway focused on eliminating the major problems contributing to inefficiencies on the waterway, such as insufficient depth and width, as determined by fleet forecasts and the requirement for one-way traffic in the channel. The study evaluated project benefits based on reduction in transportation costs generated from more efficient loading of the existing fleet, from reduction in vessel delays, and the introduction of larger vessels. The project consists of deepening and widening of the existing channel.

Since the completion of the existing 45-foot project, the size of ships using the waterway has steadily increased so that many vessels currently have to be light-loaded to traverse the waterway. The current channel depth requires that large crude carriers remain offshore and transfer their cargo into smaller crude tankers for the remainder of the voyage. This lightering operation takes place in the Gulf of Mexico where the two ships, the mother ship and the lightering ship, come together so that the cargo transfer can take place. Although this operation has been going on for years, the possibility for a collision, oil spill, fire, or other adverse environmental consequences is always present. Current projections suggest that crude imports will increase throughout the period of analysis. As these imports increase, the number of lightering vessels and product carriers will also increase, adding to the shipping delays and congestion. Deepening the channel increases safety through a reduction in the number of lightering

operations while widening of the channel will facilitate a decrease in delays. The Recommended Plan will allow construction of a safer channel that will also generate economic benefits for the nation.

Based on the economic, engineering, and environmental factors considered, the Recommended Plan (LPP) includes deepening of the Outer Bar Channel from the jetties into the Gulf of Mexico to –57 feet MLT (-58 feet MLLW); deepening from the end of the jetties in the Gulf of Mexico to the Lower Turning Basin to –55 feet MLT (-56 feet MLLW); deepening from the Lower Turning Basin to Sta. 132+66 (ConocoPhillips dock area, above 1,200-foot Brazosport Turning Basin) to –55 feet MLT (-56 feet MLLW); deepening of Freeport Harbor from Sta. 132+66 through the Upper Turning Basin to –50 feet MLT (-51 feet MLLW) (although the benefits would continue to increase, Port Freeport did not consider that the depth over –50(-51) feet was needed); deepening and widening the lower 3,700 feet of the Stauffer Channel at a depth of –50 feet MLT (-51 feet MLLW) and 300 feet wide; and dredging the remainder of the Stauffer Channel to a depth of -25 feet MLT (-26 feet MLLW), in lieu of restoring it to its previously authorized dimensions of 30 feet by 200 feet. Depths shown exclude advance maintenance and allowable over-depth. It is estimated that the approximately 17.3 mcy of new work material (including advance maintenance and allowable over-depth) would require eight separate dredging contracts to complete. The work is estimated to begin in 2012 and be complete by 2018. Dredged material management will be performed according to the Dredged Material Management Plan.

The LPP is recommended in lieu of the National Economic Development (NED) Plan. The Recommended Plan allows for two-way traffic. The NED Plan and the LPP were fully developed. The LPP is less costly than the NED Plan for the Entrance and Main channels and the net excess benefits are less. The Recommended Plan portion for the lower Stauffer Channel is the LPP, which is more costly than the NED Plan. The increased incremental difference between the LPP and the NED Plan for the lower Stauffer Channel requires the Sponsor to pay the differential cost.

The estimated total cost for the Recommended Plan, including associated costs, is \$284,713,000, (Oct 2009 price level). For the purpose of calculating the Section 902 limit, the total estimated first cost of the project, not including associated costs, is \$227.8 million including an estimated Federal share of \$114.9 million and an estimated non-Federal share of \$112.9 million. Average annual navigation benefits are estimated at \$23,894,000 with total annual costs of \$20,515,000, producing an overall benefit-to-cost ratio of 1.2.

REPORT DOCUMENTATION: Pertinent documentation on the project, the results of the CWRB, and subsequent Washington-Level Review Actions, are linked below:

- [CWRB Agenda](#)
- [Project Summary](#)
- [CWRB Briefing Slides](#)
- [CWRB Lessons Learned](#)
- [CWRB Meeting Record](#) – Decision Deferred, see Follow-up CWRB 23 August 2012

ADDITIONAL INFORMATION:

Southwestern Division

Galveston District