SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
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July 29, 2015

TO: All Engineering Criteria Review Board Members

FROM: Lawrence J. Goldzband, Executive Director (415/352-3611; lgodzband@bcdc.ca.gov)
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SUBJECT: Tesoro-Avon Marine Terminal MOTEMS Compliance Project 2nd Review Following BCDC Permit Issuance
(For Board consideration on August 11, 2015)

Project Summary

Project Name. Avon Marine Terminal Marine Oil Terminal and Maintenance Standards (MOTEMS) Compliance Project.

Applicant. Tesoro Refining & Marketing Company, LLC

Project Representatives. Mark A. Patterson/Capital Projects Manager; Chris McDowell/Environmental Permitting; Dominick Tagalog/Project Engineer; Haze Rodgers/Treadwell & Rollo; Larry Bussinger/Anvil; and Ted Trenkwalder/Ben C. Gerwick

Project Background. The project was originally reviewed by the ECRB on June 10, 2014. The Commission issued a permit to Tesoro for the MOTEMS compliance work on July 16, 2015 (BCDC Permit No. 2014.006.00). To facilitate compliance with Special Condition II-J of the permit, the permittee is seeking guidance regarding methods of analyzing displacement of the authorized pipeway system under varying ground motion conditions. [1]

[1] Special Condition J. states: By March 1, 2016, the permittee shall submit a displacement analysis of the pipeway authorized herein to the Commission staff, which will distribute the analysis to the Commission's Engineering Criteria Review Board ("ECRB"). Within 45 days of staff receipt of the information, the permittee shall present the displacement analysis at an ECRB meeting after which the ECRB shall advise the Commission staff as to whether the analysis supports the operation of the as-built pipeway in accord with sound safety standards. In the event that the information considered indicates that operation of the pipeway system would be consistent with the Commission's law and policies, based upon the advice of the ECRB, the Executive Director on behalf of the Commission will provide the permittee with written notification that pipeway and pipeline operation is authorized to proceed. In the event that the ECRB does not provide advice to support the sound operation of the pipeway, the Commission's Executive Director will inform the permittee that the pipeway system operation is not allowed until the matter is resolved. In the event that the permittee wishes to dispute the ECRB's advice, within 30 days of the ECRB meeting, the permittee may appeal the matter, including specific reasons for the appeal, to the Commission's Executive Director and, subsequently, the permittee, the Executive Director, and the Commission's Chairperson shall consult and resolve the dispute. If the dispute remains unresolved, the Commission's Executive Director and Chair shall refer the permittee's dispute to the full Commission for resolution.

Considering that earthquake ground motions are expected to vary along the length of the pipeway and associated lines due to variations in thickness and seismic velocities of the soil layers at each anchor support of the pipeline, to date, the ECRB has recommended that Tesoro analyze and provide information on:

1. Site-specific earthquake ground-motion maximum displacement estimates for the locations of the anchor support systems;
2. How these site-specific ground-motion estimates would be used to infer estimates of the maximum differential ground motion expected between the locations of the anchor supports; and
3. How these differential ground motion displacements, based on a reasonable estimate of how they are transmitted concurrently over time into the anchor support systems, would be considered in the evaluation of pipe stresses and the resultant design of the pipeway.

Therefore, the focus of the August 11 meeting will be on the ECRB's advice regarding the considerations for developing a displacement analysis of the pipeway system after which Tesoro will have the direction needed to carry out the analysis and return to the ECRB for its review of the resulting information by Spring 2016.

Project Summary. The Avon wharf is an oil terminal located along the southern shore of Suisun Bay east of the Benicia-Martinez Bridge, at the east end of Bulls Head Channel, east of Carquinez Strait, in the City of Martinez, Contra Costa County. The project's goal is to upgrade its Avon Wharf to meet MOTEMS. The project authorized by the Commission in Permit No. 2014.06.00 will allow the following activities in the Bay: (1) the demolition of a timber berth (Berth 5) and a timber approachway; and (2) the construction of a steel pile-supported approachway, a pipeway trestle to support existing pipelines, and a new berth (Berth 1A).

Law and Applicable Bay Plan Policy Considerations. The McAteer-Petris Act requires the Commission to review all proposed projects that involve fill [2] in San Francisco Bay, and prohibits the Commission from approving any fill project that would be unsafe. Specifically, Section 66605(e) of the Act states that the Commission can only authorize a fill project if the fill will be constructed, among other things, "in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters." Further, Section 66605(c) of the Act states that the fill should be the "minimum necessary to achieve the purpose of the fill."

In order to carry out its responsibility, the Commission adopted policies regarding the safety of fills. *San Francisco Bay Plan* Policy No. 1 states, in part, that the Commission has appointed and empowered the ECRB to: "(a) establish and revise safety criteria for Bay fills and structures thereon;… and (d) with regard to inspection of marine petroleum terminals, make recommendation to the California State Lands Commission (CSLC) and the U.S. Coast Guard

[2] Fill is defined in the McAteer-Petris Act as "earth or any other substance or material, including pilings or structures placed on pilings, and structures floating at some or all times and moored for extended periods, such as houseboats and floating docks" (Section 66632(a)) .

(USCG), which are responsible for regulating and inspecting these facilities; (e) coordinate with the CSLC and the USCG, which are responsible for regulating and inspecting these facilities; (e) coordinate with the CSLC on projects relating to marine petroleum terminals fills and structures to ensure compliance with other Bay Plan policies and the CSLC's rules, regulations guidelines and policies;…" Policy No. 2 states that "[e]ven if the Bay Plan indicates that a fill may be permissible, no fill or building should be constructed if hazards cannot be overcome adequately for the intended use in accordance with the criteria prescribed by the ECRB."

Request for ECRB's Assessment of Technical Analysis. In order to comply with the conditions of the BCDC Permit No. 2014.006.00, the BCDC staff seeks the Board's advice regarding an appropriate and acceptable method of analysis of the pipeway displacement during strong ground motion.

On July 16, 2015, the Commission did not authorize the permittee to construct the new "tie-in" pipeline between Berth 1A and a section of existing pipeline approximately 200 feet south from the Berth 1A because of the Board's concerns regarding the unresolved issues of the current pipeway analysis. Therefore, it is imperative that the Board identified specific and definite instructions to Tesoro as to the level of an acceptable analysis that would address the Board's comments. The purpose of this meeting will be for the permittee to get the ECRB's advice regarding the anticipated analysis and results for later disclosure. The permittee will return at a later date to the Board prior to March 1, 2016 with an analysis in compliance with the Board's direction, and, at that time, assessed by the Board.

Enclosed Material

N/A