



**THE PORT  
OF LOS ANGELES**

Executive Director's  
Report to the  
Board of Harbor Commissioners

**DATE: OCTOBER 26, 2012**

**FROM: PLANNING & ECONOMIC DEVELOPMENT**

**SUBJECT: RESOLUTION NO. \_\_\_\_\_ - MARINE OIL TERMINAL  
ENGINEERING AND MAINTENANCE STANDARDS IMPLEMENTATION  
STRATEGY**

**SUMMARY:**

At the August 2, 2012 Board of Harbor Commissioners (Board) meeting, staff presented the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) Implementation Strategy (MIS) and an alternative plan developed by Vopak. Following a discussion among the Board, staff, and industry participants regarding the MIS and the Vopak alternative plan, the Board requested staff to (1) provide updated cost estimates for each alternative; (2) determine to what extent LAX Fuels and the San Pedro Bay bunker fuel markets are dependent on Vopak; (3) determine what level of capital investment makes the MIS financially infeasible for Vopak; (4) further analyze whether two refinery operated marine oil terminals could be consolidated considering both operational and legal issues; (5) determine whether the University of Southern California (USC) rowing facility can relocate to the buffer area; (6) determine how the Port of Long Beach's MOTEMS compliance plan may affect assumptions in the MIS; (7) develop a new alternative that addresses the goals of the original MIS and allows for existing businesses to remain financially and operationally viable; and (8) provide a summary of statewide MOTEMS compliance from the California State Lands Commission. This staff report addresses the Board's inquiries.

Staff has analyzed the additional information provided in this report and developed a Revised MIS that is financially and operationally feasible for all affected parties. Staff requests that the Board provide direction regarding the Revised MIS.

**RECOMMENDATION:**

It is recommended that the Board of Harbor Commissioners:

1. Provide staff with input and direction on the Marine Oil Terminal Engineering and Maintenance Standards Implementation Strategy as revised, subject to compliance with all applicable laws including, without limitation, the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and the California Coastal Act (Coastal Act), as well as the execution of mutually acceptable agreements that will require the review and approval of City of Los Angeles (City) entities including, without limitation, the Board of Harbor Commissioners and the Los Angeles City Council, which approvals have neither been sought nor obtained. Notwithstanding any such staff direction (or responsive action by staff or others), the

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Board and City shall at all times retain full discretion to approve, disapprove, adopt or modify any and all agreements and environmental documents (including any projects, mitigation measures, project changes, and/or alternatives) related to this matter; and under no circumstances shall any such Board input and direction to staff be construed as a commitment, approval or determination of any kind by the Board, the City or other entity, whether under CEQA, NEPA, the Coastal Act or otherwise; and

2. Adopt Resolution No. \_\_\_\_\_.

**DISCUSSION:**

Background

The MOTEMS Implementation Strategy was developed to achieve compliance with MOTEMS and proposed the relocation of Vopak from its current facility to the Phillips 66 facility and consolidation of Phillips 66 within the ExxonMobil marine oil terminal (Transmittal 1). Goals of the MIS include (1) minimizing the City of Los Angeles Harbor Department's (Harbor Department) capital investments in wharf structures while addressing the future projected petroleum product throughput volumes, (2) increasing the utilization of waterfront land and wharf assets, and (3) resolving land use inconsistencies with existing and future land uses. The Revised MIS achieves these goals as discussed below.

Harbor Department Capital Investment in Wharf Structures – Projected petroleum product throughput is estimated to be 103.6 million barrels annually by 2025. Currently, the Port of Los Angeles' (Port) existing terminal capacity is 124.3 million barrels annually, utilizing eleven berths. Reducing the current eleven berths to eight berths would result in 100 million barrels per year of capacity, with an option to add an additional 30 million barrels annually through a current marine oil terminal that is permitted to expand its throughput. This reduced investment strategy remains viable under the Revised MIS.

Response to Board Inquiries

Background – In order to provide responses to Board inquiries, staff has gathered information from state and municipal agencies, industry participants, and existing marine oil terminal tenants including ExxonMobil, Phillips 66, NuStar, Shell, Valero, Vopak, Plains, LAX Fuels, California Energy Commission, State of California Legislative Analyst Office, California State Lands Commission, and the Port of Long Beach.

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Summary – Refining the cost estimates in the original MIS does not create a reduction in overall costs and, relating to Vopak, does not decrease costs enough to override the significant cost difference between the original MIS and the Vopak plan.

Analysis – Cost estimates were originally developed for each alternative based on staff design work to date, consultant input, and input from affected tenants who have expertise in design and construction of tanks and pipelines. Staff has updated the estimates by uniformly adding time escalation to reflect a current estimate for each component, and uniform contingencies for the respective stage of design for each component (Table 1). Staff has also refined the cost estimates by separating various cost components within the MIS to better define obligations of individual tenants as shown in Transmittal 2. Lastly, environmental remediation estimates have been removed as they represent an existing tenant obligation exclusive of any future land use determination.

**Table 1- Alternative Project Costs (in millions \$)**

Vopak Plan Responsible Party Costs			MIS Responsible Party Costs		
Harbor Department	Vopak	Exxon/Conoco/ Other	Harbor Department	Vopak	Exxon/ Conoco
\$40	\$45	\$11	\$35	\$171	\$195
Total	\$96		Total	\$401	

The estimated cost for the Vopak alternative decreased from \$102-\$111 million to \$96 million. The MIS cost estimate increased from \$351 million to \$401 million. Refined costs estimates for tank construction based on actual tank size requirements for both Vopak and Phillips 66 were the primary drivers in increasing the MIS cost estimate. Additionally, the original MIS estimate aggregated all tank costs as an obligation of Vopak, and the revised estimate reallocates a portion of the tank costs to ExxonMobil and Phillips 66. These changes result in a reduction in Vopak's costs under the MIS from \$239 million to \$171 million. This reduction was offset by a comparatively larger increase in cost for ExxonMobil and Phillips 66, also related to tank costs.

**2. Business Operations Dependent on Vopak**

Summary – Fuel supply and logistics for both San Pedro Bay bunker fuel suppliers and LAX Fuels are dependent on Vopak's continued operation.

Analysis – Vopak's current operation focuses on providing bunker fuel supply to major shipping lines calling in the San Pedro Bay and aviation fuel to major airlines calling at Los Angeles International Airport (LAX). Vopak currently provides the majority of bunker fuel storage in the San Pedro Bay, which makes it possible for shipping lines to purchase fuel locally at competitive prices during cargo transfer operations. Competitive

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fueling logistics for shipping lines is one of many factors that add to our Port's position as the country's premier cargo gateway. Vopak also handles as much as 25 percent of the jet fuel used by airlines at LAX. As a third party storage facility, Vopak depends on both of these business lines for financial stability.

- A. Bunker Fuel Operations – According to Vopak, approximately 1.6 million out of 2.4 million barrels of its current storage capacity is dedicated to bunker fuels which are used to fuel container and other large cargo ships in the San Pedro Bay. Based on market share data for the San Pedro Bay provided by Vopak, Vopak historically handles the majority of San Pedro Bay bunker fuel storage. In 2011, Vopak handled 64 percent of San Pedro Bay bunker fuel movements. Vopak acts solely as a storage facility for bunker suppliers who have direct contracts with shipping lines. Vopak's significant storage capacity and facility amenities allow it to act as a service provider for various bunker fuel suppliers who compete for local market share. In contrast, Chemoil, the other major bunker fuel storage facility in the San Pedro Bay (located in the Port of Long Beach), acts as a trader by buying bunker fuel on the open market, storing it at its marine oil terminal and delivering it to contracted customers. This makes Vopak the only large-scale public bunker storage facility in the San Pedro Bay. As a result, the health of the San Pedro Bay bunker fuel market is dependent on Vopak's operations.

The bunker fuel market is highly competitive on a global level and increasing ship size, cruising ranges, and the application of slow steaming continue to increase global competition for fueling ships. The San Pedro Bay bunker fuel market has become less lucrative and more restrictive in recent years due to overall reduced volumes related to the economy, low-emission fuel regulations, and competitive options in other countries. These downward trends are also evident in the larger petroleum fuel trading market in Southern California due to pressure from external refining regions in historic Southern California refiner markets in Arizona and Nevada. With fewer traders importing finished product to sell in the market, storage rates for petroleum products are facing significant downward pressure. Based on input from several market participants, any rate increase proposal for storage of bunker fuels in the current market may result in the limited number of current suppliers moving their supply to other markets with cheaper storage and higher per-barrel profit margins. Additional background on the global bunker fuel supply and storage market is attached (Transmittal 3).

- B. Aviation Fuel Operations – The following information was provided by LAX Fuels and marine oil terminal tenants in the Port of Los Angeles. LAX Fuels provides 100 percent of aviation fuels used at LAX. Vopak is one of three marine oil terminals in the San Pedro Bay that have contracts with LAX Fuels to provide jet fuel to airlines using LAX. All of the marine facilities serving LAX Fuels are in the Port of Los Angeles. LAX Fuels relies on fuel from local refineries and fuel imported through marine terminals. Marine terminal access is critical for LAX Fuels to maintain competitive pricing from area refiners as well as to provide fuel in excess of refining

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capacity in the region. According to LAX Fuels, jet fuel coming through marine oil terminals often makes up 50 percent of annual consumption.

LAX Fuels utilizes marine terminals at Kinder Morgan at Berths 118-119, Shell at Berths 167-169, and Vopak at Berths 187-190. Kinder Morgan primarily provides inland storage and distribution logistics, and is utilized the least for marine access. Vopak and Shell are both relied upon equally for marine access. Shell provides marine access and inland distribution and storage logistics, and Vopak provides the highest capacity marine access and has the only 45-foot deep berth among the three. Vopak's deep berth provides larger ship capacity and access to the most economic fuel cargoes generally associated with larger relative cargo size. According to LAX Fuels, berths at both Shell and Vopak facilities are often utilized concurrently, and it is imperative to their business to maintain access to both marine oil terminals.

**3. Vopak Financial Constraints for Capital Investment**

Summary – Vopak's assertion that the MIS is financially infeasible appears to be reasonable based on review of the underlying market conditions and the financial effect of investment under the MIS.

Analysis – Because of the highly competitive bunker fueling and logistics market and the current downward trend in the San Pedro Bay storage rates, it is unlikely that increasing storage rates significantly would be supported by the market. Without its bunker fuel storage business, Vopak would not be able to support its current operation either at its current location with no additional capital investment, or at a new location with significant additional capital investment. Vopak has provided a financial analysis showing a range of storage rate increases that would be required to support various levels of capital investment under the original MIS. Based on its financial analysis, a capital investment ranging from \$150 million to \$200 million would require a storage rate increase of 20-45 percent. This financial analysis has been reviewed and commented on by Ernst and Young LLP on behalf of Vopak. Ernst and Young's review determined that Vopak's financial analysis methodology was reasonable, that its financial model was working as intended and that storage rate and rate of return assumptions were respectively consistent with historic Vopak rates and the terminaling and storage industry. Based on a review of the financial analysis conclusions by Financial Management staff, coupled with a general understanding of the market forces gathered from several industry and public sources, Vopak's position appears reasonable.

Based on the current economic conditions, any significant storage rate increase would likely be unsupported in the current market. Understanding these issues, Vopak has stated they would not pursue this proposed development and would instead cease operations in the Port when its current lease expired. Based on Vopak's considerable existing investment in pipelines and storage tanks outside its marine oil terminal, it is even less likely a new operator with no existing assets and no contracted business could be successful considering the required investment to enter the market.

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4. Marine Oil Terminal Consolidation Analysis

Summary – Consolidation of two refiner-operated marine oil terminals appears to be operationally inefficient and physically infeasible due to competitive issues. Additionally, according to Phillips 66's legal department, consolidation in the manner proposed would expose the refiners to increased legal risk under state and federal antitrust laws.

Background – The MIS proposed consolidation of marine oil terminal operations for Phillips 66 and ExxonMobil at the site of the current ExxonMobil marine terminal at Berths 238-239 on Terminal Island. At the August 2, 2012 Board meeting, staff reported on a consolidation study performed by a third party to determine operational feasibility of consolidating these two marine oil terminals. The study focused on tank, pipeline, and berthing capacity, and generally determined that although consolidation was physically feasible, additional tankage would be required to address operational needs. The report also provided a brief commentary on potential antitrust and collusion issues arising from the proposed consolidation. The initial intent of the proposed consolidation was to provide a location with consistent adjacent land uses for Vopak to move its operation. Additionally, consolidation provided the opportunity to increase utilization of proposed new wharf assets by combining two operations that in the past ten years had demonstrated low utilization levels.

Analysis – Following the August 2, 2012 Board meeting, staff had a series of discussions with ExxonMobil, Phillips 66, and other industry participants to gather additional operational data and legal background on potential issues with consolidating two refinery supporting marine oil terminals. These discussions have led staff to conclude that consolidation is physically infeasible due to operational inefficiencies and the likelihood of commingling of sensitive competitive information. Additionally, according to Phillips 66's legal department, the proposed consolidation will expose Phillips 66 to increased risk of antitrust allegations and investigations. A detailed summary of both the operations of the marine oil terminals and issues created by consolidation is attached in Transmittal 4.

A. Operational Issues – ExxonMobil and Phillips 66 are competitors in the fuel exploration and supply business both locally and globally. Each company operates separate local refineries primarily to supply transportation fuel for domestic and international consumption. Their local refineries operate differently based on refinery engineering, available storage and pipeline assets, and strategic business direction including available market opportunities. The marine oil terminal is the input and output point to maintain balance within the refinery and to capitalize on market opportunities for export and import of both refined and unrefined fuel products. According to both refiners and other industry participants, marine oil terminal access is imperative to maintain optimal operating efficiency and its operations are critically monitored to ensure proper measurement and grade specification of products being purchased and inputted into the refinery or produced and sold out of the marine oil terminal.

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Commingling of similar products at the marine oil terminal that are either clean (gasoline, jet fuel, various fuel additives) or dark (fuel oil, bunker fuel, crude oil) is common but intensely monitored to ensure grade and measurement integrity. These activities are performed by refinery staff, and according to the refiners would not be ceded to a third party without systematic and continuous oversight. The required oversight would result in a less efficient operation with two parties performing the job that currently one party performs. Additionally the commingling of products and accounting for product ownership required to be left in tanks or pipelines introduces an added level of monitoring. The product used to maintain a heel in the bottom of a tank or left in a pipeline after a movement can add up to hundreds or thousands of barrels with substantial value. In a jointly used facility, accounting for these products from an ownership perspective would require additional process control measures due to joint use and intensive oversight from refiners. This issue would add another layer of oversight in comparison to the current proprietary operations.

A larger issue that relates to both competitive and legal concerns of the refiners is that a consolidated operation would expose refinery staff to information that is competitively sensitive to the other refiner. Initially, introduction of a third party operator was considered a feasible alternative for sequestering such sensitive information. However, based on additional information gathered from both refiners and third party operators, the required internal control standards in the refinery may not allow complete protection of sensitive material. With the requirement to regularly oversee their own product transfers and the need to have detailed information about commingling and sequestering of products, it is likely refinery employees would encounter information regarding grade and measurement movement of products into their competitors refinery even with the addition of a third party operator. According to the refiners and other industry participants, exposure to this type of information provides a view into the current refinery operations and would not be acceptable from a competitive perspective. Without sufficient land adjacent to either existing marine oil terminal site to develop a completely separate tank and pipeline system to avoid some of the issues discussed above, it appears consolidation of two refiners into a joint-use marine oil terminal is operationally inefficient and physically infeasible due to competitive issues.

Although a third party operator model may not provide the desired level of information protection in a joint use marine oil terminal, it may utilize excess capacity in a proprietary marine oil terminal when not needed by the refinery resulting in overall increased utilization.

- B. Legal Issues – Staff concurs on the analysis set forth in the attached letter from Phillips 66's legal department, which outlines the fundamental concerns it would have regarding disclosure of competitively sensitive information, and exposure to antitrust liability (Transmittal 5). The City Attorney's Office participated in discussions with counsel for both Phillips 66 and ExxonMobil, undertook independent research, and concurs with the statements in the attachment.

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5. USC Rowing Facility Relocation

Summary – The USC row facility can be redeveloped in the buffer area vacated by Vopak.

Analysis – Following the August 2, 2012 Board meeting, staff met with representatives from Vopak and USC to discuss the potential to relocate the USC rowing facility into the buffer area created in Vopak's proposed plan. The original proposal by Vopak limited use of the buffer area's southern half due to the existing waterside access for the cement facility located adjacent to Berth 190. Vopak has provided an alternative cement truck access design that minimizes truck access between the buffer and the water by establishing a truck turnaround area at the southernmost end of the buffer (Transmittal 6). Although this decreases the overall size of the buffer, it removes any waterside land use constraints along most of the southern half. Alternative solutions including moving the cement truck loading rack were also analyzed, but were preliminarily deemed infeasible due to site constraints.

Staff met with USC athletic department and real estate staff and proposed a portion of the reconfigured buffer for development of a new rowing facility. USC staff reacted favorably to the new proposed site, and they are interested in moving forward with conceptual site planning. Although USC sees its existing location as the best of all alternatives, they view the buffer area as the next best alternative based on its proximity to the proposed Wilmington Waterfront Development Project. The proposed site would be consistent with the Port's Risk Management Plan provided Vopak continues to agree to their current operational restrictions governing the storage of commodities at the terminal.

6. Port of Long Beach's MOTEMS Compliance Plan

Port staff has reviewed the Port of Long Beach liquid bulk operations in order to determine whether their plan for compliance with MOTEMS will alter assumptions made under the MIS. The Port of Long Beach contains eight marine oil terminals, with five on Port of Long Beach property and three on private property. Regarding the five terminals on Port of Long Beach property, two act as traders and primarily utilize their tanks proprietarily to store products they buy and sell. Occasionally they sell product to local refiners. British Petroleum and Tesoro each operate separate proprietary marine oil terminals for refinery product logistics similar to the refinery support marine oil terminals in the Port of Los Angeles. Additionally each of these refinery support facilities handles crude oil imports for their own refineries and third parties. Lastly, British Petroleum has a standalone crude oil import terminal that is used by several refiners. As discussed in Transmittal 4, joint use crude oil import facilities do not result in the same operational and competitive concerns related to joint use of a refinery supporting product terminal. The Port of Long Beach plans to develop MOTEMS compliant berths for all of their terminals based on the exiting utilization rates.

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Background – At the August 2, 2012 Board meeting, the Board directed staff to reevaluate the MIS and Vopak proposals and develop an alternative that provided specific results. The Board found it important that in any alternative, Vopak's business remains viable. Additionally the Board found it imperative that refinery operations be protected. If consolidation was not a feasible alternative, other options should be developed. Staff presents a Revised MIS below to address the Board's concerns.

Revised MIS

1. Vopak reconfigures its current facility with the following conditions:
  - No storage of commodities with flash points below 140 degrees Fahrenheit
  - No hazardous footprint overlap with the proposed buffer
  - Configure cement truck access to produce maximum use of the buffer area
2. USC provided opportunity for long-term permit in portion of buffer area
3. ExxonMobil and Phillips 66 remain at current locations with the following conditions:
  - One berth to be developed at each location
  - Permit renewal conditioned on approval of long-term plan to increase utilization
  - Agreement to permit terms that will economically incentivize increased utilization
  - Area 2 to be removed from ExxonMobil's current leasehold upon lease expiration

This Revised MIS adheres to the goals of the original MIS by (1) minimizing capital investments through reducing the existing eleven wharves to eight, (2) increasing the utilization of waterfront land and wharf assets through economic performance requirements, and (3) reducing land use inconsistencies by removing liquid bulk storage tanks from the waterfront adjacent to the Wilmington Waterfront Development Project. Although this proposed alternative may not eliminate all land use inconsistencies, it provides a path forward that is financially feasible for all parties and maintains infrastructure required for the regional transportation fuel needs. This alternative also provides more flexibility for future regulatory and market shifts that could result in heavier reliance on the remaining marine oil terminals. Project costs for the revised MIS would be very close to the proposed Vopak alternative project costs referenced above in Table 1, subject to further development of scope for the proposed buffer area. Additionally, the Port Community Advisory Committee as well as the Wilmington Neighborhood Council support Vopak's proposal.

ExxonMobil Area 2 Tank Farm – As part of the Revised MIS, the Port proposes to terminate ExxonMobil's permit for the Area 2 portion of their current marine oil terminal upon its expiration on December 31, 2015. As part of the Terminal Island planning effort, the Port proposes to remove non-water dependent uses from Terminal Island in

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favor of expanding water dependent uses. As a result, ExxonMobil's Area 2 crude oil tank farm site could be used to accommodate container operations. In the last ten years, ExxonMobil's Area 2 tank farm has been minimally used for waterborne crude oil imports. Based on information available to staff regarding waterborne crude oil imports, in the last two years ExxonMobil has moved an average of 1.1 million barrels of crude oil through Area 2 from berths in the Port of Long Beach, resulting in approximately one tank turn (the filling and emptying of a storage tank) annually. This is significantly below the industry average of two to three tank turns per month. Since 1999, crude oil volumes at ExxonMobil's berth in the Port of Los Angeles have averaged 100,000 barrels annually, with no volumes over the last five years. ExxonMobil has not made the volume of non-waterborne imports of crude oil available. However, they have consistently acknowledged that Area 2 has been underutilized. ExxonMobil has stated they will rely on greater volume of waterborne crude oil imports in the near future, which can be accommodated through the Plains All American Pipeline (Plains) project. The Terminal Island planning effort designated the LAXT loop area as the future site for expansion of liquid bulk tankage to support the Plains project or other liquid bulk storage uses if necessary.

**8. California State Lands Commission Compliance Summary**

The California State Lands Commission has provided a statewide compliance summary for MOTEMS (Transmittal 7). The compliance summary ranks each facility on a one through ten scale. The ranking system took into account compliance with audits, remedial repairs, design status, lease renewals, environmental assessment, and status of construction. A score between three and five demonstrates various levels of compliance with required audit schedules and/or completion of less substantial remedial improvements, while a score between six and eight demonstrates approved design for substantial structural improvements, completed entitlements, and/or completion of some substantial structural improvements. The average ranking statewide is 5.3. The ports of Los Angeles and Long Beach, each with six terminals, have respective average rankings of 4.1 and 5.5. Generally, facilities with common ownership of all water and landside assets including wharves, tanks, and pipelines have achieved the highest level of compliance.

**ENVIRONMENTAL ASSESSMENT:**

The proposed action is limited to the Board providing staff direction on finalizing the MIS. Board action on this item is not legally binding nor does it commit the Harbor Department to the approval of any permit or lease or any terms or conditions thereof, or any proposed project. Any proposed project concerning MOTEMS implementation, including the relocation of any marine oil terminal would require an Application for Discretionary Project, which would be subject to environmental review under CEQA and the National Environmental Policy Act (NEPA), as appropriate, to analyze potential environmental impacts, feasible mitigation measures to reduce or avoid such impacts, and reasonable alternatives to the proposed project.

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**ECONOMIC BENEFITS:**

Board action on this item will have no employment impact.

**FINANCIAL IMPACT:**

Under the Revised MIS, POLA proposes to invest \$7.5 million per berth (2 at Vopak, 1 each at Phillips 66 and ExxonMobil). Additionally, 6.35 million of POLA funding is required for dredging and relocation. The projected rate of return for this conceptual project is 17.1%. Volume estimates are based on Goods Movement Division forecast.

**CITY ATTORNEY:**

The Office of the City Attorney has reviewed this Board letter and determined it raises no legal issues at this time.

**TRANSMITTALS:**


1. MOTEMS Implementation Strategy
2. Financial Impact Assessment
3. Bunker Fuel Supply and Storage Summary
4. Proprietary Marine Oil Terminal Operational Summary
5. Phillips 66 Legal Opinion Letter
6. Vopak Cement Facility Access Map
7. California State Lands Compliance Report

FIS Approval:  (initials)  
CA Approval:  (initials)

  
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