



# South Coast Air Quality Management District

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Mr. Dwight E. Sanders  
California State Lands Commission  
Division of Environmental Planning and Management  
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Sacramento, CA 95825-8202

Docket Management Facility  
U.S. Department of Transportation  
Room PL-401  
400 Seventh Street SW  
Washington, D.C. 20590-0001

Dear Mr. Sanders:

**Revised Draft Environmental Impact Report (DEIR) for the Cabrillo Port  
Liquefied Natural Gas Deepwater Port State Clearing House No. 2004021107 &  
General Conformity Determination, Docket # USCG-2004-16877**

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. SCAQMD staff has several concerns about the analysis of the air quality impacts that the proposed project would have on the South Coast Air Basin (Basin). While the offshore activity is within Ventura County, the Basin is downwind and will be directly impacted by the proposed project. In addition, the onshore pipeline will be constructed and operated within the jurisdiction of the SCAQMD. As discussed in more detail below the SCAQMD staff is also concerned about quality of natural gas as this could significantly affect the SCAQMD's progress towards achieving air quality goals in the Basin.

Over the last decade and a half, there has been significant improvement in air quality within the Basin. Nevertheless, several air quality standards are still exceeded frequently and by a wide margin. Of the National Ambient Air Quality Standards (NAAQS) the Basin is in non-attainment for 8-hour ozone, PM10, and PM2.5. The SCAQMD regulates thousands of natural gas-fired pieces of combustion equipment. The SCAQMD staff is concerned that the quality of natural gas imported and subsequently supplied to

the local natural gas pipeline system by the proposed LNG terminal can result in an increase in NO<sub>x</sub> emissions. An increase in NO<sub>x</sub> emissions can impede the SCAQMD's progress in achieving ozone and PM<sub>10</sub> and PM<sub>2.5</sub> federal standards.

According to the Natural Gas Council, the single most important gas quality indicator of potential emission and safety impacts in end-user equipment is the Wobbe Index (WI). The WI of natural gas in this area has traditionally been low. Southern California Gas Company (SCGC) operators have stated that their system average WI is 1332 Btu/scf. The WI of LNG varies depending on the source, but it could be as high as 1430 Btu/scf, or 7.4 percent higher than current natural gas. The Natural Gas Council's White Paper, *White Paper on Natural Gas Interchangeability and Non-Combustion End Use*, February 28, 2005, recommends a change of no more than 4 percent in WI from the historical average. Testing conducted by SCGC shows that NO<sub>x</sub> emissions from sensitive equipment can increase from 20 to 127 percent with hot (high WI) gas of only 1400 WI, and result in noncompliance with SCAQMD's stringent emission limits on stationary combustion sources. This is of concern since NO<sub>x</sub> is a precursor to ozone and PM<sub>10</sub>/PM<sub>2.5</sub>, to attain these health-based air quality standards significant emission reductions are already needed from the existing levels without additional NO<sub>x</sub> emissions from the proposed project. SCAQMD staff has recommended to the California Public Utilities Commission that new LNG supplies to our area be limited to a maximum WI of 1360, in order to limit the emission impacts of hot gas in the South Coast Air Basin.

BHP Billiton states that the LNG they intend to import from Australia would be of high quality, with over 99 percent methane and not more than 1360 WI. However, they have not ruled out importing other LNGs with higher WI if necessary. If this occurs, the WI could be reduced to 1360 by injecting a small amount of nitrogen into the gas after it reaches shore. Nitrogen injection is used at the Cove Point, Maryland LNG terminal to meet gas quality specifications and is being considered to be used at the proposed Sound Energy Solutions terminal in Long Beach, in addition to the Natural Gas Liquids Recovery (LNGR) unit, consisting of a De-ethanizer and De-Methanizer, used to maintain the WI below 1360. The DEIR neglects the potential emissions impact of hot gas in the South Coast Air Basin, and must address alternatives and mitigation measures for this environmental impact. Compliance with SCAQMD's proposed 1360 WI limit would be a satisfactory mitigation measure.

Based on a letter to Mr. Bob Fletcher at the California Air Resources Board dated April 11, 2006, it is the SCAQMD staff's understanding that BHP intends to mitigate its operational NO<sub>x</sub> emissions through use of Wartsila engines on its tugs and to repower and upgrade the hull design of a tug that is used for a long haul barge hauling operation in California Coastal Waters. It is the SCAQMD staff's understanding that BHP intends to use the Wartsila 32DF engines for its tugs, a dual fuel engine that can run on either natural gas or light fuel oil.

Based on the Technology Review from Wartsila of the 32DF the stated 1.3 g/kW-hr NO<sub>x</sub> emission rate is based on operating the engine in the gas mode. If the project proponent intends to use the 32DF engines to mitigate air quality impacts or for general conformity,

the Final EIR and General Conformity Determination should provide assurance that the emission level stated is achieved, i.e. that to achieve the 1.3 g/kW-hr of NO<sub>x</sub> that BHP intends to operate the tugs in the gas mode and intends to limit use of fuel oil for the pilot. If this is not the intention of BHP, then the Final EIR and General Conformity Determination should ensure that emissions are appropriately quantified when the engine is operated in the gas or fuel oil modes.

#### General Conformity Comments

The SCAQMD staff is concerned that the general conformity document does not address project operational emissions in the Basin. In addition, for NO<sub>x</sub> construction emissions the document states they will be fully offset, but the mechanism is not specified.

It should be noted that Table 3 of the draft General Conformity Determination also inappropriately used the base year 2010 emission inventories for the entire Basin. The controlled Planning Inventory must be used for VOC and NO<sub>x</sub>. The correct emission inventory for the 97/99 AQMP are:

1997/1999 AQMP	
<u>10% Regional Emissions Budget (tpy)</u>	
CO	80,000
PM10	11,200
PM2.5	n/a
NO <sub>x</sub>	19,400
VOC	15,100

Staff has been advising that conformity projects use both the 97/99 AQMP as it is the currently approved SIP and the 2003 AQMP (in the event it is approved before the final conformity determination occurs). The controlled regional emission inventory for the 2003 AQMP are:

2003 AQMP	
<u>10% Regional Emissions Budget (tpy)</u>	
CO	105,700
PM10	10,700
PM2.5	3,900
*NO <sub>x</sub>	19,300
*VOC	11,300

(\*Planning inventory)

SCAQMD staff recommends that Table 3 of the draft General Conformity Determination also list 10 tons per year (tpy) NO<sub>x</sub> thresholds for general conformity as a contingency if the Basin requests a “bump-up” to extreme. This would avoid the need to revise the document should a redesignation occur.

More detailed comments on the proposed project are attached. Please provide the SCAQMD with written responses to all comments contained herein prior to the certification of the Final EIR pursuant to Public Resources Code Section 21092.5. The

SCAQMD staff is available to work with the Lead Agency to address these issues and any other questions that may arise. Please contact me at (909) 396-3105 if you have any questions regarding these comments.

Sincerely

Susan Nakamura  
Planning & Rules Manager  
Planning, Rule Development & Area Sources

Attachment  
SN:CB

Control Number: ODP060323-01

**Revised Draft Environmental Impact Report (DEIR) for the  
Cabrillo Port Liquefied Natural Gas Deepwater Port**

**Project Construction Emissions:**

According to Table 4.6-10 on page 4.6-12 of the RDEIR, the data shows the daily emissions from each phase of project construction. The table needs to be clarified to facilitate review of the proposed project's construction air quality impacts to identify the peak daily or average daily emissions, and unmitigated and mitigated emissions. If the data represents the average daily emissions, SCAQMD staff recommends that the table be revised to show estimated peak daily construction emissions. If the data represents unmitigated emissions, SCAQMD staff recommends that a second table be presented in the Final EIR showing the mitigation measures, their control efficiencies and the remaining emissions. This will facilitate the review of the project's air quality impacts and help determine the scope of the mitigation measures that would be required to reduce the emissions to less than significant levels.

As previously indicated in this letter, the SCAQMD staff is aware of measures that the lead agency intends to implement to mitigate operational NO<sub>x</sub> emissions. The SCAQMD staff is concerned, however, that the proposed project lacks sufficient mitigation measures for construction emissions. The lead agency states on page 4.6-22 of the RDEIR that the project applicant "would fully offset NO<sub>x</sub> emissions associated with construction activities in Los Angeles County by acquiring emission offsets or through a similarly enforceable measure so that there would be no net increase in NO<sub>x</sub> emissions." The lead agency provides no information on these emission offsets. Given the magnitude of project emissions, it is important that the lead agency provide more specific and detailed information about the proposed measures not only to facilitate review by the public, but also to facilitate implementation and monitoring. SCAQMD staff believes it is inconsistent with CEQA and inappropriate to defer to the future an important component of the proposed project that substantially affects project emissions. Postponing the description of the mitigation measures deprives the public the opportunity to evaluate the adequacy of the mitigation measures to reduce the project's air quality adverse impacts to insignificance. In the absence of any specific information on the emission offsets, the lead agency has not demonstrated that "there would be no net increase in NO<sub>x</sub> emissions." Please provide the detailed information as part of Table 4.6-15 in the Final EIR.

Under MM AIR-1a and MM AIR-2b, the lead agency proposes the preparation of a Construction Emissions Reduction Plan and a Construction Fugitive Dust Plan at some future date. The lead agency states on page 4.6-29 of the Revised DEIR that these two plans will be prepared and submitted to the Ventura County Air Pollution Control District and the SCAQMD for approval prior to the commencement of construction activities. The lead agency goes on to list the mitigation measures that would be developed into the plans and implemented to reduce onshore construction emissions. Given the magnitude of project emissions, it is important that the lead agency provide more specific and detailed information about the proposed measures not only to facilitate review by the

public, but also to facilitate implementation and monitoring. SCAQMD staff believes it is inconsistent with CEQA and inappropriate to defer to the future an important component of the proposed project that substantially affects project emissions. Postponing the description of the mitigation measures deprives the public the opportunity to evaluate the adequacy of the mitigation measures to reduce the project's air quality adverse impacts to insignificance.

Some of the mitigation measures proposed by the lead agency under MM AIR-1a are ambiguous and may not be enforceable so SCAQMD staff recommends the following to reduce the ambiguities.

- Mitigation Measure MMAIR-1a proposes reducing emissions of diesel particulate matter and other air pollutants by using *particle* traps and other technological or operational methods. Please revise the measure to read "Reduce emissions of diesel particulate matter by using alternative clean fuel technology such as electric or compressed natural gas-powered construction equipment with oxidation catalysts instead of gasoline- or diesel-powered engines. Alternatively, reduce particulate matter emissions by using construction equipment fitted with diesel particulate filters." It should be noted that this is not a NOx mitigation measure.
- MM AIR-1a also proposes locating engines, motors and other equipment "as far as possible" from residential areas and sensitive receptors (schools, daycare centers, and hospitals). The phrase "as far as possible" is ambiguous and may not be enforceable. California Air Resources Board document "Air Quality and Land Use Handbook: A Community Health Perspective" recommends avoiding siting new sensitive land uses within 300 feet of facilities such as dry cleaning operation or a large gas station. Since these facilities emit similar toxics as engines, motors and generators, SCAQMD staff recommends that a minimum buffer of 300 feet is maintained between engines, motors and generators on the one hand and sensitive receptors on the other, along the proposed pipeline routes. See Table 4.17-6 on pages 4.17-19 and 4.17-20 of the RDEIR which shows several medium-density residential areas through which the Pipeline 225 Loop Preferred Route would be passing.
- MM AIR-1a also proposes reducing construction-related trips of workers and equipment, including trucks, but does not state how those vehicle trips can be reduced. SCAQMD staff recommends providing shuttles and vans to transport construction workers to and from construction sites thus eliminating some of the individual private vehicle trips and the exhaust emissions related to vehicle trips. The contractor may also arrange for food catering trucks to visit the project site about twice a day.

**Health Risk Assessment:**

- The SCAQMD staff recommends that the lead agency conduct an HRA on the operational emissions from the project. The DEIR neglects to include an analysis of the potential cancer and non-cancer risk from operations of the project. Even with the

fuel limitations, the SCAQMD staff is concerned that the cancer risk from these large diesel-fueled engines could exceed the 10 in a million significant risk.

- The SCAQMD staff currently has no protocol to estimate the cancer risk from construction projects that are less than one year in duration and therefore has no comments on the HRA conducted for the construction portion of the proposed project.

#### **Construction Criteria Concentration Impacts:**

- Localized construction criteria pollutant impacts in the Final EIR should be completed using the SCAQMD's LST methodology, which can be found on the SCAQMD website at <http://www.aqmd.gov/ceqa/handbook/LST/LST.html>.
- Stack diameters appear to be estimated from estimated flow rate and an assumed stack velocity. Stack diameters range from 0.45 to 0.61 meters (1.5 to 2.0 feet). These stack diameters appear to be over-estimated. Since stack diameter impacts momentum flux, the stack diameters should be re-evaluated in the Final EIR based on actual construction equipment stack diameters.
- The background concentration source is not identified. Background concentrations for construction in Los Angeles in the Final EIR should be represented by the closest monitoring station area, which would be SRA 13, Santa Clara Valley.
- No map identifying sensitive receptors is included in the analysis. The closest receptors to the construction areas should be identified. A map that identifies sensitive receptors should be included in the Final EIR.
- Adjustments have been made to the annual multiplying factor presented in the Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, EPA-454/R-92-019, October 1992. SCAQMD staff does not recommend making adjustments to annual multiplying factors. Concentrations should be estimated without any adjustment to the annual multiplying factor. If the construction duration is so short that an annual multiplying factor does not adequately represent the project, an annual impact analysis may not be relevant.

#### **The Offshore and Coastal Dispersion (OCD) Model:**

It is not clear how the emission rates used in the OCD model for criteria pollutants during operation were developed. The Final EIR should include calculations that demonstrate how the emission rates were developed. It is also not clear how release parameters from ocean vessels were developed for the OCD model analysis. The Final EIR should demonstrate how release parameters were developed or cite reference sources for these parameters.