

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400



August 3, 2006

Joe Lapka (AIR-3)
EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901

Re: Comments on EPA's Proposed Authority to Construct for BHP Billiton Cabrillo Port LNG terminal.

Dear Mr. Lapka:

Coastal Commission staff appreciates the opportunity to comment on the Environmental Protection Agency's ("EPA") proposed Authority to Construct permit under the federal Clean Air Act, for the Cabrillo Port liquefied natural gas ("LNG") terminal project (the "Cabrillo Port project") proposed by BHP Billiton. BHP Billiton proposes to construct and operate an LNG floating storage and regasification unit ("FSRU") in federal waters about 14 miles off the coast of Ventura and Los Angeles counties. The project will include installation and operation of the FSRU and new offshore and onshore natural gas pipelines.

In addition to the coastal development permit requirements of the California Coastal Act, the Cabrillo Port project is subject to the consistency review requirements of Section 307(c)(3)(A) of the federal Coastal Zone Management Act ("CZMA") (16 USC §1456(c)(3)(A)). Under these requirements, BHP Billiton must certify to the Commission that the Cabrillo Port project is consistent with all enforceable policies contained in California's federally-approved Coastal Management Program ("CCMP"). Section 307(c)(3)(A) requires that, in order for BHP Billiton to obtain a license under the Deepwater Port Act for the Cabrillo Port project, the Commission must concur in BHP Billiton's consistency certification. Section 307(f) of the CZMA (16 USC §1456(f)) includes as enforceable policies of the CCMP requirements established by the Clean Air Act ("CAA") (42 USC §7401 *et seq.*), and requirements established by the federal government or by any state or local government pursuant to the CAA. Therefore, to concur in BHP Billiton's consistency certification, the Commission must find that it will meet federal Clean Air Act requirements.

Our comments on the proposed Authority to Construct fall broadly into two main issue areas: 1) the application of nonattainment New Source Review (“NSR”) rules to the proposed project; and 2) the application of Prevention of Significant Deterioration (“PSD”) rules. Each of these issue areas is discussed in more detail below.

Nonattainment New Source Review rules

EPA proposes to regulate Cabrillo Port in the same manner as sources on the Channel Islands, rather than as a source located on the mainland. In making this determination, “EPA considered factors such as the location of the FSRU in relation to the Channel Islands and the mainland of Ventura County, the current uses of the Channel Islands, and the amount of emissions and the air quality impact to be expected from the stationary source.” (Statement of Basis, p. 17) The draft permit does not contain either a quantified analysis of these factors, or an explanation of how these factors support EPA’s determination. The decision to permit Cabrillo Port as if it were located on the Channel Islands effectively exempts BHP from nonattainment NSR requirements, including Best Available Control Technology, and offset requirements. A more detailed explanation of EPA’s analysis underlying this decision would provide other regulators, the applicant, and the public with a better understanding of the reasoning behind its decision.

In the absence of a more detailed explanation of EPA’s reasoning, Coastal Commission staff provides the following comments we think are relevant to the question of whether the rules that govern emissions sources on the Channel Islands or the mainland should be applied to the FSRU.

Exemptions should be interpreted narrowly

Section 19(b) of the Deepwater Port Act (33 USC §1518(b)) requires that the applicable state laws of the nearest adjacent coastal state be administered and enforced by the appropriate federal officials. Pursuant to this requirement, EPA determined that the rules of the Ventura County APCD are the regulations applicable to the FSRU. All of Ventura County, including the Channel Islands, is designated nonattainment for ozone under State standards (17 CCR §60201). Normally, Ventura County APCD Rule 26 “New Source Review” applies to new emissions sources in areas designated nonattainment; however, as EPA correctly points out, Rule 26.3 specifically exempts, “any emissions unit located on San Nicholas or Anacapa Island,” from New Source Review rules.

EPA’s decision is not whether the FSRU should be treated as if it is located in an attainment or a nonattainment area – clearly the FSRU should be treated as if it is in a nonattainment area, because all of Ventura County is designated nonattainment for ozone under the applicable standards. Rather, EPA must decide whether the exemption granted in Rule 26.3 applies to the FSRU. It seems that in the absence of a strong argument to the contrary (which EPA has not provided in public documents), the exemption under 26.3 should be interpreted narrowly to include only those sources *actually located on* San Nicholas or Anacapa Island.

As the Statement of Basis points out, the Channel Islands are designated attainment/unclassified under the federal standards for ozone (40 CFR §81.305). Commission staff understands that in exempting San Nicholas and Anacapa Island from New Source Review rules, the purpose of the Ventura County APCD may have been to treat these islands “as if” they were designated attainment under the State standards. By regulating the islands as if they were designated

attainment, the APCD rules are in line with the federal attainment/unclassified designation. EPA seems to be making this interpretation of the State's action in the Statement of Basis, where EPA somewhat misleadingly refers to the offshore islands as an "attainment area." (See, for example, page 18, Section 4.3.3)

Under this interpretation of the State's action, an argument might be made that the State's regulating the offshore islands "as if it was designated attainment," could be extended to the proposed site of the FSRU.¹ Any argument to this effect should be based on air quality data, meteorology, and the distribution of population and emissions, and should explain why the conditions at the FSRU are more analogous to conditions at the islands than at the mainland. If this is an appropriate interpretation of the State's action, that interpretation and supporting argument should be presented in detail by EPA.

Emissions will adversely affect the onshore nonattainment area

Commission staff is aware of only one report analyzing emissions from the FSRU, that could be used by EPA as a basis for justifying its regulatory decisions.² Section 2.1.2, starting on page 9 of the report, analyzes the potential contribution of the project to ozone formation, and concludes that the potential for FSRU emissions to affect the onshore ozone nonattainment area is insignificant. Commission staff believes that the report's conclusion is incorrect. The proposed project, including secondary marine vessel sources, represents a substantial source of ozone precursors, including nitrogen oxides ("NO_x"), reactive organic compounds ("ROC"), and to a lesser extent carbon monoxide.

The Sierra Research analysis of potential project-related impacts on ozone does not incorporate the local air district's Emission Inventory, or the Air Quality Management Plan. NO_x emissions from the proposed project represent an increase of approximately 8.4 percent of all District-regulated emission sources in the Ventura County 2005 Emission Inventory. ROC emissions will increase by approximately 1.4 percent. These estimates are based on EPA's emission calculations, which substantially underestimate total project emissions by failing to calculate emissions on a potential-to-emit basis (see our discussion in the next section below). The EPA's emission estimates also do not incorporate the correct fuel for the LNG carriers. Ship emissions estimates are based on natural gas combustion, but all ship propulsion technologies require a

¹ If the VCAPCD's intent was to treat San Nicholas and Anacapa Islands as if they were designated attainment, we do not understand why the VCAPCD did not, through the CARB, formally designate the islands as attainment areas in the State air quality designation regulations, as it is allowed to do under 17 CCR §70302(a). "An air basin will be the area designated for ozone, nitrogen dioxide, suspended particulate matter (PM₁₀), fine suspended particulate matter (PM_{2.5}), sulfates, and visibility reducing particles. Provided, however, if the state board finds (based on air quality data, meteorology, topography, or the distribution of population and emissions) that there are areas within an air basin with distinctly different air quality deriving from sources and conditions not affecting the entire air basin, the state board may designate an area smaller than an air basin..."

² Sierra Research, 2006. California Air Quality Act Air Quality Impact Assessment of the BHP Cabrillo Deepwater Port LNG Import Terminal. Prepared for BHP Billiton. Commission staff has a copy of the report dated April 14, 2006; however an earlier version was included as a technical appendix for the March 2006 Revised Draft EIR.

combination of boil-off gas and fuel oil, and some ships will need to operate on fuel oil only within District waters.

With regard to Ventura County's Air Quality Management Plan, the County has shown an approved annual emission reduction rate of progress of approximately 2.8 percent and 3.4 percent for NO_x and ROC, respectively.³ Therefore, based on EPA's emissions estimates, the reduction in NO_x emissions necessary for ozone standard attainment in the County could be delayed by three years. If the emission estimates are corrected for the deficiencies noted above, Ventura County ozone standard attainment efforts could be delayed by close to a decade.

To illustrate the effect of offshore emissions, Santa Barbara County, which does not have an active port, evaluated the impacts of ships passing offshore in the shipping lanes. In the County's 1994 Clean Air Plan, photochemical air quality modeling was performed for the region. This modeling showed that emissions from marine shipping activities contributed to ozone formation, and found that Santa Barbara County would attain the federal 1-hour ozone standard by the mandated 1996 attainment date but for the emissions generated off the coast by marine shipping activities.⁴ Santa Barbara did not achieve compliance with the federal ozone standard for another three years.⁵

Emissions associated with the FSRU will clearly exacerbate existing ozone standard violations in Ventura County and the South Coast Air Basin. Because the impacts of the proposed project will be felt in the onshore nonattainment area, it seems appropriate to regulate the FSRU as if it were located in the onshore nonattainment area.

Prevention of Significant Deterioration Rules

If EPA does not regulate the FSRU under the nonattainment NSR rules, Commission staff believes it should be regulated as a major source under the federal Prevention of Significant Deterioration ("PSD") rules. Rule 26.10 of the Ventura County APCD air quality rules requires any major source to comply with the PSD regulations set forth in 40 CFR §52.21. As discussed on page 19 of the Statement of Basis, the PSD regulations at Section 52.21(b)(1) define a "major emissions source" as any source type belonging to a list of 28 source categories which emits or has the potential to emit 100 tons per year ("tpy") or more of any pollutant regulated under the CAA, or any other source type which emits or has the potential to emit such pollutants in amounts equal to or greater than 250 tpy.

Commission staff believes that the FSRU should be considered a fuel conversion plant, one of the 28 source categories that lowers the major source threshold to 100 tpy. At this threshold, the FSRU qualifies as a major source, because carbon monoxide emissions are estimated at 171.75 tons per year. Furthermore, Commission staff believes that emissions from the proposed project

³ VCAPCD, 2004. Proposed Ventura County 2004 Air Quality Management Plan Revision.

⁴ Santa Barbara County Air Pollution Control District. 1994 Clean Air Plan (November 1994).

⁵ SBCAPCD, 2003. The Need to Reduce Marine Shipping Emissions: A Santa Barbara County Case Study.

have been underestimated, and that if all emissions are taken into account, emissions associated with the FSRU may exceed 250 tpy of carbon monoxide.

The FSRU as a fuel conversion plant

On page 19 of the Statement of Basis, EPA discusses the possibility that the FSRU should be considered a “fuel conversion plant” pursuant to PSD rules at 40 CFR 52.21(b)(1). EPA concludes, based on uncited legislative history and an internal memorandum dated July 31, 2003, that the FSRU does not qualify as a fuel conversion plant. Commission staff respectfully disagrees with EPA’s conclusion.

The July 31, 2003 memo states:

...[T]he vaporization of LNG, which is a change of state from a liquid to a gas, occurs at temperatures above -260 degrees F. As a result, LNG vaporizes naturally at ambient temperatures and that indirect contact with seawater, which is warmer than LNG, is used to speed up the vaporization. We understand that vaporization of LNG occurs without the need for chemical or process change that generally occurs at other sources that EPA considers as “fuel conversion plants” (e.g., coal gasification, oil shale processing, conversion of municipal waste to fuel gas, processing of sawdust into pellets) under the PSD rules.

The vaporization of LNG to natural gas differs from the fuel conversion processes discussed in EPA’s memorandum regarding Cleveland Electric since the vaporization would occur naturally at ambient conditions without additional processing. Our view is that the PSD rules are not intended to include the vaporization of LNG to natural gas in the source category “fuel conversion plants.”

Converting LNG to natural gas through a manufactured process change is one of the primary functions of the FSRU. This conversion process will require the installation and operation of eight Submerged Combustion Vaporizers, which will emit 48.93 tons of NO_x, 3.49 tons of reactive organic compounds, and 148.90 tons of carbon monoxide annually. While LNG *would* vaporize naturally at ambient conditions without additional processing, in fact it *will not* be vaporized naturally as part of the proposed project. The vaporization process will emit substantial pollutants in order to effect a fuel conversion. For this reason, the FSRU should be considered a fuel conversion plant for the purposes of PSD regulations.⁶

Project emissions estimates

The Statement of Basis provides emissions estimates for equipment on-board the FSRU, vessel emissions in District waters, and vessel emissions in federal waters (see pages 9 and 10). These estimates appear to be based on a set of assumed average operation conditions (.8 billion cubic feet per day (“bcfd”)), rather than the future/maximum design case (1.2 bcfd) or the maximum regasification capacity (1.5 bcfd). PSD standards, such as the definition of “major stationary

⁶ On this point, we are in agreement with position of the Santa Barbara County Air Pollution Control District, articulated in their May 11, 2006, letter commenting on the Revised Draft EIR.

source" (40 CFR §52.21(b)(1)(i)) mandate that emissions calculations be based on the "potential to emit."

"Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source." 40 CFR §52.12(b)(4)

Emissions for the FSRU should be recalculated using proper potential-to-emit values. Given that the maximum regasification capacity is nearly double the amount on which EPA's estimates are based, it seems likely that the actual potential to emit for the FSRU will require regulating the project as a major source under the PSD rules.

Other Comments - $PM_{2.5}$ standards

The Statement of Basis does not estimate potential impacts associated with the formation of secondary particulates, which would fall into the $PM_{2.5}$ category. The project would emit several particulate precursors including volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur oxides (SO_x), and ammonia (NH_3) due to ammonia slip from the selective catalytic reduction units. Given the long dispersion time in a moist marine environment, a substantial percentage of NO_x and SO_x would react with the NH_3 to form ammonium sulfate and ammonium nitrate particulates. This increase in particulates could result in a potential violation of the federal $PM_{2.5}$ standard. EPA should address this issue in the Statement of Basis and in the permit.

Conclusion

For the above reasons, we urge EPA to recalculate the project's air emissions, which we believe have been underestimated, and regulate the facility either under the nonattainment NSR rules, or as a major source under the PSD rules. It is our understanding that either of these regulations would require that emissions associated with the FSRU be fully offset. By fully offsetting emissions, BHP's proposed project will be in accord with Governor Arnold Schwarzenegger's campaign to reduce greenhouse emissions and combat global warming.

Commission staff appreciates the opportunity to comment on the proposed Authority to Construct. If you have any questions, please call Alison Dettmer, manager of the Coastal Commission's Energy and Ocean Resources Unit, at (415) 904-5205.

Sincerely,



PETER DOUGLAS
Executive Director