

## DOCKETED

<b>Docket Number:</b>	12-AFC-03
<b>Project Title:</b>	Redondo Beach Energy Project
<b>TN #:</b>	205189
<b>Document Title:</b>	City of Redondo Beach Comments to South Coast Air Quality Management District Notice of Public Meeting for Proposed Modification
<b>Description:</b>	Public Meeting held on 06-25-15
<b>Filer:</b>	Jon Welner
<b>Organization:</b>	Jeffer Mangels Butler & Mitchell LLP
<b>Submitter Role:</b>	Intervenor Representative
<b>Submission Date:</b>	6/29/2015 8:21:29 PM
<b>Docketed Date:</b>	6/30/2015

Jon Welner  
Direct: (415) 984-9656  
Fax: 800-538-2541  
jwelner@jmbm.com

Two Embarcadero Center, 5th Floor  
San Francisco, California 94111-3813  
(415) 398-8080 (415) 398-5584 Fax  
www.jmbm.com

June 25, 2015

**VIA E-MAIL**

Andrew Lee, Senior Air Quality Engineering Manager  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, California 21865  
E-Mail: [alee@aqmd.gov](mailto:alee@aqmd.gov)

Re: *City of Redondo Beach's Comments in Response to "Notice of Public Meeting for Proposed Modifications to AES Power Plant in Redondo Beach, CA"*

Dear Mr. Lee:

The City of Redondo Beach ("City") hereby submits the following comments in response to the "Notice of Public Meeting for a Proposed Modifications to AES Power Plant in Redondo Beach, CA," issued by the South Coast Air Quality Management District ("AQMD" or "District") on June 17, 2015. The "Public Meeting" is being held on June 25, 2015.

**BACKGROUND**

On June 13, 2014, the District issued a Preliminary Determination of Compliance ("PDOC") for the Redondo Beach Energy Project ("RBEP"). On July 17, 2014, the City submitted comments on the PDOC. (The comments are attached as Exhibit A.)

In or around August 2014, the project Applicant ("AES") requested that its permit application to the District for the RBEP be suspended, pending the outcome of a local ballot measure in Redondo Beach. Approximately ten months later—in or around April 2015—AES asked the District to resume the proceedings for its permit application.

At the Energy Commission Status Conference in the RBEP proceeding on April 10, 2015, SCAQMD invited interested parties to submit additional comments regarding whether the District should hold a Title V Hearing on the RBEP air permit application. The City submitted comments on April 24, 2015. (The comments are attached as Exhibit B.)

On June 17, 2015, the District disseminated a Notice of Public Meeting regarding the RBEP workshop. The Notice specified that the Public Meeting would be held eight days later, on June 25, 2015.

On June 18, 2015, the District sent a letter to the City denying its request for a Title V Public Hearing pursuant to AQMD Rule 3006. The letter made clear that the "Public Meeting" is *not* a Title V Public Hearing pursuant to AQMD Rule 3006.

In addition to the comments submitted to the District, the City has submitted detailed materials to the Energy Commission regarding air permitting issues for the RBEP. These materials are attached as Exhibits C (presentation at workshop on May 20, 2015) and D (comments on Preliminary Staff Assessment, dated June 4, 2015).

## **COMMENTS**

### **1. THE DISTRICT IS REQUIRED TO HOLD A TITLE V PUBLIC HEARING PURSUANT TO RULE 3006, NOT AN INFORMAL "PUBLIC MEETING"**

Rule 3006 sets forth the "Public Participation Requirements for Permit Actions." On the first page of the PDOC, the District states:

Based on the emission potential, this project is subject to the public notice requirements specified in SCAQMD Rules 212 — Standards for Approving Permits and Issuing Public Notice, 1710 — Prevention of Significant Deterioration Analysis, Notice and Reporting, 1714 — Prevention of Significant Deterioration for Greenhouse Gases, and 3006 — Title V Public Participation.

Rule 3006 specifies that "any person" may request a Public Hearing to "clarify one or more issues involved in the permit decision." The Public Hearing must be "noticed at least 30 days prior to the hearing."

Nowhere in Rule 3006 does it authorize an informal "Public Meeting" on eight days' notice. The Public Meeting is therefore improper, and the public has not received the benefit of the specified public notice requirements. The City's ability to prepare comments on the proposed PDOC has been materially compromised, and the City is not able to provide testimony by expert witnesses or have the testimony recorded or transcribed into the administrative record.

The City therefore objects to the District's makeshift approach to holding a "Public Meeting," and urges the District to notice and hold a Title V Public Hearing pursuant to the requirements of Rule 3006.

### **2. THE DATA AND ANALYSES SUBMITTED BY AES ARE INSUFFICIENT FOR THE DISTRICT TO MAKE A DETERMINATION OF COMPLIANCE**

As detailed extensively in prior comments, the modeling used by AES to demonstrate compliance with regulatory requirements is flawed. The modeling is deficient in the following ways:

- It ignores localized impacts from NOx and ammonia emissions, precursors to secondary PM2.5 formation.
- It does not take into account complex local conditions, including nighttime offshore plume transport and fumigation, stagnant/calm conditions, and the accumulation of pollutants that may occur and locally impact Redondo Beach residents. In this complex location, the CALPUFF model would provide more accurate data than the AERMOD model used by the applicant.
- The fumigation analysis completed by the Applicant using the SCREEN3 model is inadequate to describe conditions in the Redondo Beach area.

(These comments are discussed in detail in the City's comments on the Energy Commission Preliminary Staff Assessment, contained in Exhibit D.)

These issues call into question the Applicant's Rule 1401 analysis. The District cannot rely on the data that has thus far been submitted by AES, and should require more detailed analysis before issuing its Final Determination of Compliance.

**3. AT A MINIMUM, THE DISTRICT MUST REQUIRE ADDITIONAL ANALYSIS BEFORE IT CAN ISSUE A FINAL DETERMINATION OF COMPLIANCE**

As a result of AES's voluntary suspension of the permit application, the Districts' Preliminary Determination of Compliance was issued more than a year ago. Before issuing a Final Determination, the District should require AES to update its air quality analyses to include more recently available data and regulatory guidance.

At a minimum, these updates should include:

- At the Energy Commission Workshop on May 20, 2015, many local residents identified "black soot" depositing on their houses as a potential health issue. AQMD should investigate this issue as a potential Rule 402 nuisance concern.
- With regard to Rule 1401, the air toxics health risk assessment should be updated to meet the revised AQMD risk assessment guidelines.
- AQMD should perform an updated LAER review to include recent permit applications for installation of cleaner pollution control technology with lower emission limits for NOx, CO, VOC, PM, and GHG.
- AQMD should review new population density data issued by the Energy Commission, attached as Exhibit E.

South Coast Air Quality Management District  
June 25, 2015  
Page 4

Thank you for the opportunity to submit these comments.

Sincerely,



JON WELNER of  
Jeffer Mangels Butler & Mitchell LLP

cc: Michael Webb, City Attorney, City of Redondo Beach

EXHIBIT A

## DOCKETED

<b>Docket Number:</b>	12-AFC-03
<b>Project Title:</b>	Redondo Beach Energy Project
<b>TN #:</b>	202756
<b>Document Title:</b>	City of Redondo Beach's Comments on AQMD's PDOC
<b>Description:</b>	Comments on Preliminary Determination of Compliance
<b>Filer:</b>	Jon Welner
<b>Organization:</b>	City of Redondo Beach (outside counsel)
<b>Submitter Role:</b>	Intervenor Representative
<b>Submission Date:</b>	7/18/2014 2:32:27 PM
<b>Docketed Date:</b>	7/18/2014

Jon Welner  
Direct: (415) 984-9656  
Fax: 800-538-2541  
jwelner@jmbm.com

Two Embarcadero Center, 5th Floor  
San Francisco, California 94111-3813  
(415) 398-8080 (415) 398-5584 Fax  
www.jmbm.com

July 17, 2014

**VIA E-MAIL**

Andrew Lee, Sr. AQ Engineering Manager  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, California 21865  
E-Mail: [alee@aqmd.gov](mailto:alee@aqmd.gov)

Re: Redondo Beach Energy Project, SCAQMD Notice of Intent to Issue Permits

Dear Mr. Lee:

The City of Redondo Beach hereby submits the following comments in response to SCAQMD's Notice of Intent to Issue Permits (Notice) for the Redondo Beach Energy Project (RBEP).

1. **Maximum Emissions Exceed SCAQMD Significance Thresholds – CEQA Review And Mitigation Needed Prior To Issuance of Permit To Construct.** The project maximum daily operational criteria pollutant emissions stated in Table 26 on page 75 of the PDOC greatly exceed the CEQA significance thresholds listed in the SCAQMD CEQA Handbook for VOC, NO<sub>x</sub>, PM<sub>10</sub>, SO<sub>x</sub>, and CO.<sup>1</sup> In addition, the Rule 1401 air toxic health risk assessment conclusions in Table 35 on page 100 of the PDOC are on a per unit basis, not cumulative to include all units and the existing background health risk burden.

SCAQMD cannot issue a Permit to Construct without a meaningful review of the Project's significant environmental impacts and consideration of mitigation options. Will the California Energy Commission (CEC) conduct a review of the significant and potentially significant impacts—including those identified above—that have not been addressed by SCAQMD in this proposed decision? If so, what will be the role of the SCAQMD in this review?

In reviewing the impacts, SCAQMD and/or CEC should evaluate the additional contribution of the project to the existing local air quality burden, especially for particulate matter and air toxics. PM<sub>10</sub> and PM<sub>2.5</sub> should be addressed as separate

---

<sup>1</sup> [www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2)



pollutants with their own significance thresholds. In addition to the standard approach to conducting air quality modeling, the analysis should account for shoreline fumigation, lower stack heights from the previous facility, and localized terrain influences. Following recently issued EPA guidance, the PM impacts should account for secondary PM<sub>2.5</sub> formation due to NO<sub>x</sub> and SO<sub>x</sub> emissions as well as use of ammonia to control NO<sub>x</sub>.

2. **Role of SCAQMD With Regard To CEQA.** The CEC is the "lead agency" for compliance with CEQA with regard to approval of the RBEP.<sup>2</sup> SCAQMD is a "responsible agency."<sup>3</sup>

In its proposed decision, SCAQMD does not discuss or analyze significant impacts under CEQA, except as they relate to compliance with SCAQMD regulations. Will SCAQMD provide an analysis of significant air quality impacts to assist the CEC with its CEQA analysis?

What is SCAQMD's role as a responsible agency under CEQA?

As the lead agency, must the CEC make its own independent determination of whether there are significant air quality impacts? Can the CEC simply rely on SCAQMD's determination of compliance to find that there are no significant impacts, or must it exercise independent judgment? Can the CEC simply use SCAQMD's standards regarding significance, or must it make an independent determination of whether the standards are appropriate and sufficient?

When answering these questions, please keep in mind the following:

- (a) Public Resources Code Section 21082.1(c)(3) provides:

"As part of the adoption of a negative declaration or a mitigated negative declaration, or certification of an environmental impact report, [the lead agency shall] find that the report or declaration reflects the independent judgment of the lead agency."

- (b) CEQA Guidelines Section 15020 provides:

"Each public agency is responsible for complying with CEQA and these Guidelines. A public agency must meet its own responsibilities under CEQA and shall not rely on comments from

---

<sup>2</sup> Public Resources Code § 25519(c).

<sup>3</sup> California Code of Regulations, Title 14, Section 15381.

other public agencies or private citizens as a substitute for work CEQA requires the Lead Agency to accomplish."<sup>4</sup>

(c) The CEB practice guide to CEQA provides:

"While air quality management district guidance documents are a particularly helpful resource, lead agencies should *not* assume that following the recommendations in any of these documents will provide a complete analysis of air quality impacts for every project. When relying on these guidance documents, the lead agency should consider whether the project might cause significant air quality effects that are not covered by the methods for calculating and evaluating impacts recommended in the document, and augment the analysis as appropriate."<sup>5</sup>

3. **Improper Application Of The Rule 1304(a)(2) Offsets Exemption.** In the PDOC, SCAQMD justifies the use of the Rule 1304(a)(2) exemption from offset requirements based upon a limited review of the previous and future output of three AES-owned facilities. However, Rule 1304(a)(2) requires a basin-wide analysis. It provides:

"The new equipment must have a maximum electrical power rating (in megawatts) that does not allow basin-wide electricity generating capacity on a per utility basis to increase. If there is an increase in basin-wide capacity, only the increased capacity must be offset."

By reviewing only the MW output at the three facilities, SCAQMD has not provided the required analysis of the impact of RBEP and other projects on basin-wide capacity on a per utility basis. The situation at the utility level is much more complicated than addressed in the PDOC. To allow the exemption at certain facilities, the MW loads from multiple older facilities have been "traded" to proposed facilities; for example, between the Huntington Beach Energy Project (HBEP) to the Walnut Creek Energy Facility and from RBEP to HBEP.

It follows logically that if MW load capacity is reduced at individual facilities then the load capacity and emissions must increase at other facilities to meet basin-wide load demands, potentially invalidating use of the Rule 1304(a)(2) exemption. Therefore, it is possible that *either* an increase or a decrease in load capacity at a single facility can result in an increase in basin-wide capacity.

---

<sup>4</sup> California Code of Regulations, Title 14, Section 15020.

<sup>5</sup> Kostka & Zischke, *Practice Under the California Environmental Quality Act*, § 13.60. This is the authoritative treatise on CEQA practice.

The limited analysis provided by SCAQMD does not provide a proper and legal review of the use of the Rule 1304(a)(2) exemption for RBEP. SCAQMD should prepare the basin-wide analysis for each and all power generation facilities that are operating, under construction, and proposed, within the Southern California Edison territory. In addition, the current and planned future approach by SCAQMD of allowing the trading of MW load between facilities should be evaluated for significant impacts under CEQA as well as conformity with EPA nonattainment area New Source Review (NSR) regulations.

SCAQMD should also explain and justify the intake and use of the windfall fees collected under Rule 1304.1 as adequate to mitigate the potentially significant local impacts under CEQA, and in lieu of the use of local procured, market-based emission offsets. Will the fees collected be spent in Redondo Beach and Hermosa Beach to mitigate local impacts?

4. **Lowest Achievable Emission Rate For PM10/PM2.5.** On page 82 of the PDOC, SCAQMD states the Lowest Achievable Emission Rate (LAER) for PM10/PM2.5 is based on pipeline-quality natural gas, and the emission rate provided by AES.

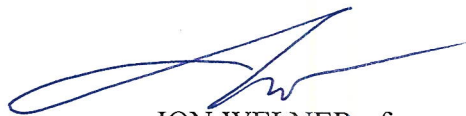
While LAER may be based upon use of pipeline quality gas in turbines, why has SCAQMD simply accepted the emission rate limit provided by AES? Has SCAQMD conducted any research on the PM emissions from gas turbines at operating power plants, to establish what PM emission rate can actually be achieved as LAER? SCAQMD should prepare an analysis of PM10/PM2.5 source test results from similar equipment on a lb/hr and lb/MW basis, and require RBEP to meet the lowest achievable emission rate as shown by this research.

5. **RBEP Is A New Facility.** The RBEP should be considered a new facility and not a replacement or modified facility. SCAQMD cannot establish the existing old unit PTE from the NSR database from which to base the modification. The only similarity between the old power plant and the new plant is the general location. Otherwise, RBEP is a completely new facility based on a new design and new and different technology. RBEP should therefore be considered a new facility. Designation of RBEP as a new facility would make a significant difference in how the air district rules and emissions standards are applied by SCAQMD.

South Coast Air Quality Management District  
July 17, 2014  
Page 5

Thank you for the opportunity to submit these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jon Welner', with a long horizontal flourish extending to the right.

JON WELNER of  
Jeffer Mangels Butler & Mitchell LLP

cc: Michael Webb, City Attorney, City of Redondo Beach

**EXHIBIT B**

Jon Welner  
Direct: (415) 984-9656  
Fax: 800-538-2541  
jwelner@jmbm.com

Two Embarcadero Center, 5th Floor  
San Francisco, California 94111-3813  
(415) 398-8080 (415) 398-5584 Fax  
www.jmbm.com

April 24, 2015

**VIA E-MAIL**

Andrew Lee  
Sr. AQ Engineering Manager  
SCAQMD  
21865 Copley Drive  
Diamond Bar, California 21865

Re: Redondo Beach Energy Project (RBEP)  
Supplemental Information in Support of Title V Hearing

Dear Mr. Lee:

The City of Redondo Beach submits the following information to SCAQMD in support of holding a Title V Hearing before issuing a Final Determination of Compliance (FDOC) for the RBEP.

The City is submitting this letter at this very late date because it only recently obtained this information—well after the submission deadline of July 2, 2014, specified in SCAQMD's Public Notice. The City notes that at the recent Energy Commission Status Conference in the RBEP proceeding on April 10, 2015, SCAQMD stated that it was still "willing to listen" to additional comments on the need for a Title V Hearing.

It has come to the attention of the City that in the late 1970s and early 1980s, Southern California Edison ("SCE") was considering repowering "Plant 1" at the Redondo Beach Power Plant, consisting of 4 generating units. SCE performed a comprehensive air emissions study of the area, and determined that as a result of the unique topography and climate of the area, the site would result in extreme local air pollution and was unsuitable for use as a power plant. The study concluded that the only way a power plant at the site could escape the local "inversion" would be to utilize stacks that are at least 300 feet tall. As a result, SCE decided against repowering Plant 1 and began considering alternative sites.<sup>1</sup>

The City recommends that before issuing the FDOC, SCAQMD should investigate the above information and attempt to obtain the study produced by SCE. The study likely contains material information on whether the RBEP can comply with federal requirements,

---

<sup>1</sup> This information was provided to the City by a former senior executive of SCE.

Andrew Lee  
April 24, 2015  
Page 2

and whether the proposed facility will generate significant local air impacts that cannot be mitigated.

The City therefore respectfully requests that SCAQMD either: (1) hold a Title V Hearing on the RBEP, in which these issues can be addressed; or (2) postpone making a decision on whether to hold a Title V hearing until after it has investigated these issues.

Sincerely,



JON WELNER of  
Jeffer Mangels Butler & Mitchell LLP

EXHIBIT C





**BLUESCAPE**  
ENVIRONMENTAL

# Redondo Beach Energy Project Preliminary Staff Assessment Workshop Air Quality & Public Health Issues

James A. Westbrook, CCM, CPP  
May 20, 2015

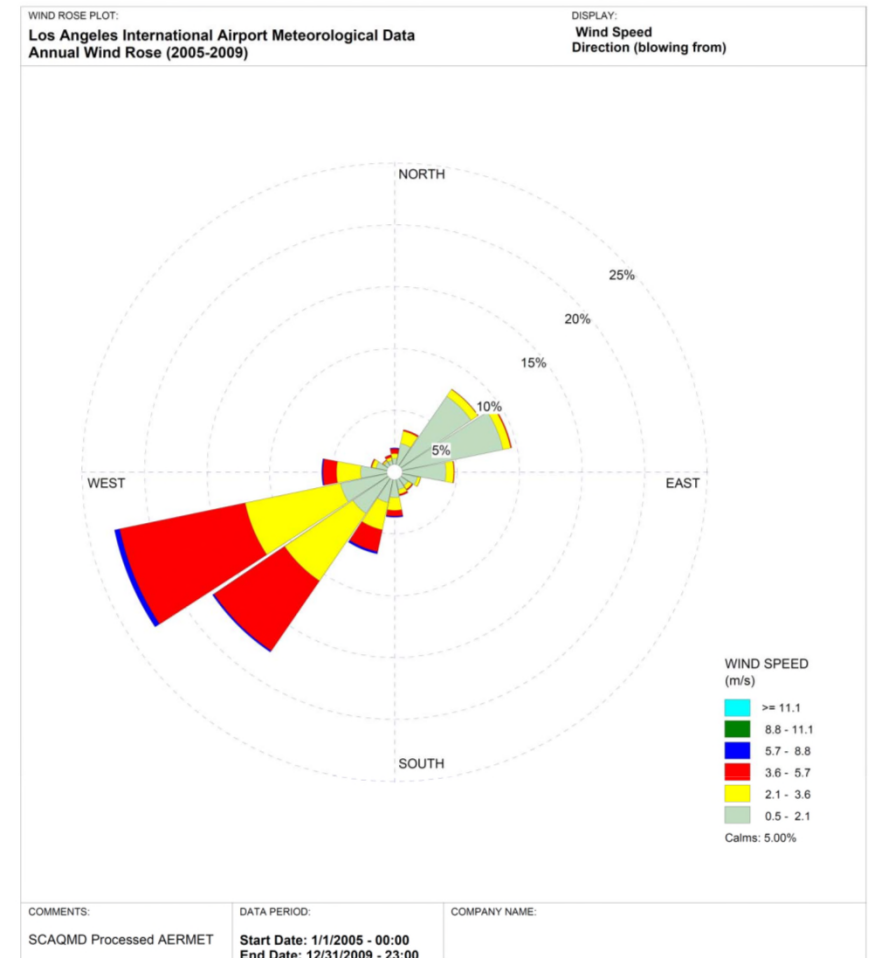
# Air Quality & Public Health Issues Summary

- Power Plant Setting and Meteorology
  - Unique site impacts must be adequately addressed
  - Impacts may be significantly greater than reported
- CEQA Mitigation for Particulate Impacts
  - CEQA-significant impacts must be mitigated locally to zero
- Updated and New Federal and State Requirements
  - Review newer and cleaner technologies
  - Update to new air toxic health risk standards
  - Model secondary PM formation and update study inputs

# CEC Must Require Adequate Air Quality Impact Analyses

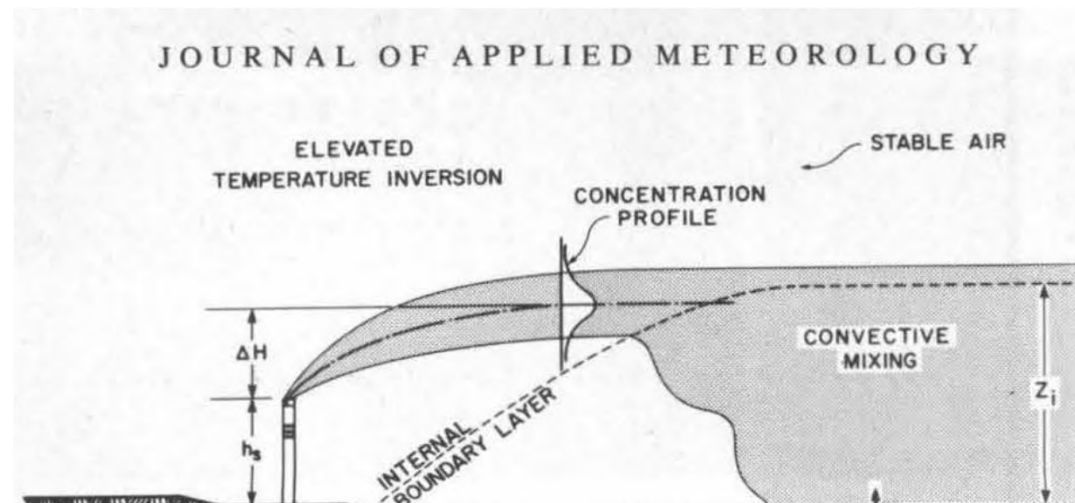
LAX 5-year Wind Rose

- AES' "standard" approach does not apply
- Unique, complicated scenario:
  - Shoreline location
  - Bluff to east; Palos Verdes peninsula
  - Lower power plant stacks
  - Atmospheric effects: Fumigation and Stagnation issues
  - Strong turbulent sea breezes
- Special impacts on nearby Bluff not studied
- Secondary fine PM formation not studied
- AERMOD and SCREEN3 models not acceptable for unique situation
- Edison decided against Redondo Power Plant repower in 1970s and 1980s



# Offshore Pollution Flow & Return

- Night: offshore pollution mixes to sea surface (fumigation) and may accumulate
- Day: Pollution may return to Redondo Beach
- Phenomenon not addressed by AES
- PM and air toxic impacts may be much greater than reported



# Offshore Pollution Flow & Return



# Onshore Fumigation and Stagnation

- Onshore fumigation study by AES not adequate
- PM not included
- SCREEN3 model a crude tool to address important impacts
- Stagnation events (low or calm winds) keep pollution in Redondo Beach
- 200-foot bluff one mile to east; 140-foot stacks
- Long-term PM and air toxic concentrations could be much higher

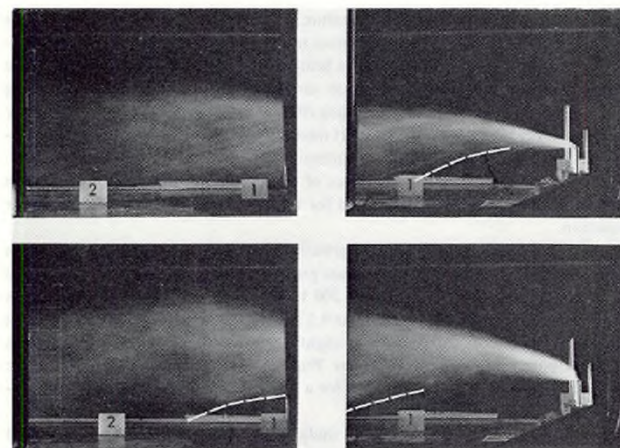


Fig. 6. Flow visualization, fumigation, unit 1, wind angle onshore wind speed  $6.7 \text{ m s}^{-1}$ , load full and one-third,  $HR=1.5$ .

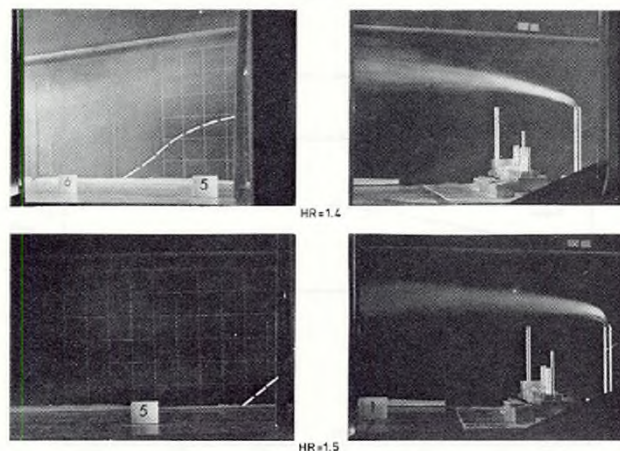


Fig. 7. Flow visualization, fumigation, unit 2 full load, wind angle onshore, wind speed  $6.7 \text{ m s}^{-1}$ ,  $HR=1.5, 1.4$ .

# RBEP Shoreline Location



RBEP stacks 160 feet above sea level < 200 feet

# Actions for Special Siting Concerns – Air Quality

- Edison decided against repowering the Redondo plant, Staff may need to do the same

## ACTIONS:

- Model all short-term and long-term impacts from direct and secondarily formed PM formation and air toxic emissions
- Consider special cases where plumes will interact with local atmospheric and terrain features
- Run the CALPUFF model, or consider more advanced work such as tracer studies
- Develop a meteorological network with multiple surface sites and local upper air data for at least one year
- Deny power plant licensing if unacceptable and unavoidable impacts



# CEC Should Require Local Mitigation for PM

- Fine PM from power plants a serious health concern
- All RBEP emissions will cause or contribute to CEQA-significant PM impacts
  - Federal and state standards already exceeded
- Redondo Beach disagrees Rule 1304(a)(2) provides any assurance local PM mitigation will be provided
- Secondarily formed PM mitigation must be included
- Local PM mitigation is needed to offset all impacts

## ACTIONS:

- Special Fund to Redondo Beach to pay for local PM mitigation projects – diesel PM reduction, traffic flow improvement, electric vehicles, solar energy, etc.
- Zero PM emissions impact must be demonstrated

# CEC Should Require Use of Updated and New Information

- Staff and Air District review put on hold one year
- Previous studies now may be obsolete

## ACTIONS:

- Update baseline for current plant actual emissions
- Consider newer and cleaner technology – BACT review
- Update to new State Air Toxic Health Risk Standards
  - Children and sensitive individuals, cancer risks increased 3-6 times
  - Greater cancer burden in the nearby population
- Consider EPA recommendations to model secondary PM impacts
- All studies should be re-done for regulatory and technical guidance changes
- Staff should not issue a Final Staff Assessment until the Air District FDOC is completed



**BLUESCAPE**  
ENVIRONMENTAL

# Redondo Beach Energy Project Preliminary Staff Assessment Workshop Air Quality & Public Health Issues

James A. Westbrook, CCM, CPP  
May 20, 2015

EXHIBIT D



June 4, 2015

**VIA ELECTRONIC FILING**

Karen Douglas, Presiding Member  
Janea A. Scott, Associate Member  
Redondo Beach Energy Project  
AFC Committee, California Energy Commission  
1516 Ninth Street  
Sacramento, California 95814

**Subject:** Redondo Beach Energy Project, Comments on the Preliminary Staff Assessment, Air Quality and Public Health Issues

Dear Commissioners:

On behalf of the City of Redondo Beach, BlueScape Environmental hereby submits the following comments on the Preliminary Staff Assessment (PSA) for the proposed Redondo Beach Energy Project (RBEP). The comments address issues in the PSA Air Quality and Public Health Sections 4.1-1 and 4.8-1.

**1. The Air Quality Modeling Significance Analysis performed by the Applicant does not adequately address the localized impacts in Redondo Beach from fine particulate matter and air toxic emissions.**

The California Energy Commission's (CEC) licensing process is a certified regulatory program under the California Environmental Quality Act (CEQA). The Commission must determine whether impacts from the proposed RBEP emissions will be significant, and if so, it must require mitigation measures to reduce the impacts to less than significant. The Applicant must provide the necessary data and analyses to enable the Commission to make this determination.

The PSA describes the Applicant's air quality modeling analyses (pp. 4.1-24 to 4.1-34) for demolition and construction, power plant commissioning and operational impacts. The dispersion modeling and health risk assessment completed for RBEP air toxic emissions is described at pp. 4.8-7 to 4.8-15.

Fine particulate matter (PM) and air toxic emissions from RBEP will have an impact on the public health of Redondo Beach citizens. Therefore, these emissions are the primary concern of the City of Redondo Beach. Long-term health effects from exposure to fine PM, such as is emitted from power plants, especially PM<sub>2.5</sub>, or PM less than 2.5 microns, is known to cause a range of chronic respiratory diseases

including asthma, reduced lung function, bronchitis and emphysema.<sup>1</sup> In the PSA Workshop on May 20, 2015, several residents reported that black particulate soot has deposited on their properties, that may be from the current power plant. This potential link must be reviewed.

In the PSA, Staff acknowledge that the impacts from RBEP PM emissions will be significant:

*Staff believes that directly-emitted particulate matter emissions from demolition and construction [operation] would cause a significant impact because they would cause new violations or contribute to existing violations of PM10 and PM2.5 ambient air quality standards, and additionally that those emissions can and should be mitigated to a level of insignificance.”<sup>2</sup>*

For the CEC and South Coast Air Quality Management District (SCAQMD) to properly identify appropriate local mitigation measures under CEQA, the agencies must rely upon a technically representative and conservative analysis. The Applicant has either ignored or inadequately characterized fine particulate formation and several unique meteorological and geographical aspects of siting RBEP near the ocean shore and the Palos Verdes peninsula. Special situations unique to the site such as land-sea breeze circulations, nighttime and daytime plume fumigation effects, local pollutant accumulation, and localized terrain influences have not been adequately addressed.

According to Jim Weisenberger, a former senior employee of Southern California Edison, the utility considered whether to repower the facility at Redondo Beach in the 1970s and 1980s, but decided against it due to the unique aspects of the site that would cause unacceptable and unavoidable air quality impacts.<sup>3</sup>

The City of Redondo Beach requests that Staff fully consider these issues in developing the Final Staff Assessment. Staff should consider whether a new power plant can be built at all without significantly damaging the public health in Redondo Beach, and if so, whether proposed mitigation measures go far enough to sufficiently mitigate health impacts in the heavily populated areas within a few miles of the proposed facility.

The following specific comments and recommendations regarding the Air Quality Modeling Significance Analyses are provided:

**a. The Applicant’s PM modeling analyses for the RBEP have ignored the localized impacts from NO<sub>x</sub> and ammonia emissions, precursors to secondary PM<sub>2.5</sub> formation.**

---

<sup>1</sup> Preliminary Staff Assessment, Redondo Beach Energy Project, CEC-700-2014-003-PSA, Docket No. 12-AFC-03, July 2014, p. 4.1-6.

<sup>2</sup> PSA, pp. 4.1-27 and 4.1-30.

<sup>3</sup> Interview with Jim Weisenberger, August 13, 2014.

Ammonia and NOx emission increases from the RBEP will be precursors to secondary fine particulate formation. The City of Redondo Beach does not agree with the statement in the PSA on p. 4.1-30, that the secondary formation of PM cannot be addressed through modeling. In fact, to properly address localized PM impacts, secondary PM formation processes can and should be quantified and modeled by the Applicant following current regulatory guidance.

In the case where a project's direct PM emission increases exceed 10 tons per/year (TPY), and NOx and/or SOx emission increases exceed 40 TPY, the Environmental Protection Agency (EPA) recommends a "Case 3" approach to assessing secondary PM formation.<sup>4</sup> Given the RBEP's potential to cause or contribute to exceedances of the PM ambient standards, the appropriate approach would be either a hybrid qualitative / quantitative analysis or photochemical modeling, using a preferred model in the *Guideline on Air Quality Models*.<sup>5</sup> A hybrid qualitative / quantitative approach would use background nitrate, sulfate and total PM2.5 data with direct PM modeling results, to add in the secondarily formed PM to modeled results. A similar approach could also be used to estimate the conversion of ammonia slip emissions into ammonium sulfate.

Due to concerns regarding long-term health impacts in the community from fine particulate emissions, the City requests that the local impacts from secondarily formed PM due to, at a minimum, NOx and ammonia slip emissions from RBEP, be properly analyzed by the Applicant following EPA guidance.

**b. The Applicant's modeling analyses have not accounted for nighttime offshore plume transport and fumigation, stagnant/calm conditions, and the accumulation of pollutants that may occur and locally impact Redondo Beach residents.**

In completing the air quality modeling significance analyses, the Applicant has relied on a standard modeling approach using the AERMOD dispersion model, with readily available input data. However, this standard approach is not acceptable in light of the unique conditions at a site that drive pollutant impacts. A different and more sophisticated technical approach is required to adequately understand the potential impacts.

The City challenges the standard approach used, and in fact, opposes siting the power plant in Redondo Beach on the basis of the unique meteorological conditions and terrain features that are likely to cause pollution impacts to reach unacceptable levels in the neighboring community. The Applicant is proposing to increase new power plant PM emissions substantially above recent levels, while reducing stack heights by about 50 feet. The impacts may be significantly higher than represented

---

<sup>4</sup> *Guidance for PM2.5 Modeling*, USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, May 20, 2014.

<sup>5</sup> *Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose Dispersion Model and Other Revisions; Final Rule*, EPA, 40 CFR Part 51 Appendix W, FR 68218, November 9, 2005.

in the Applicant's modeling analyses and described in the PSA. In the 1970s and 1980s, such special considerations led Southern California Edison to decide against repowering the plant in Redondo Beach.<sup>6</sup> At a minimum, these localized impacts must be fully understood before allowing power plant development to proceed.

EPA has provided guidance that special consideration should be taken for siting facilities at locations with complex atmospheric processes and terrain. This is discussed in the *Guideline on Air Quality Models*<sup>7</sup>, and includes processes that commonly and frequently occur in Redondo Beach. These include inhomogeneous local winds, inversion breakup fumigation, shoreline fumigation, and stagnation. EPA's *Meteorological Monitoring Guidance for Regulatory Modeling Applications* Section 3.4 on Coastal Locations, states, "*the unique meteorological conditions associated with local scale land-sea breeze circulations necessitate special considerations.*"<sup>8</sup> As discussed below, this EPA guidance has been ignored by the applicant, and the air quality modeling completed does not adequately address the impacts.

In Redondo Beach, the winds are inhomogeneous, characterized by onshore sea breezes during the day, with calm conditions or light winds at night. At night, an offshore land breeze is typical. The wind patterns may be impacted by terrain influences, including the Palos Verdes Peninsula rising to about 1,450 feet above sea level about 3 to 5 miles south of the RBEP site, and a nearly 200-foot high bluff within Redondo Beach. As a result the pollutant transport may be different than represented by the LAX meteorological data used by the Applicant.

At night, pollution can be transported offshore where convective processes can mix emissions downward toward the surface of the water. In addition, the pollution can accumulate and then be brought onshore at ground-level during the day. In the 1970s and 1980s, several studies addressed this phenomenon, including one study discussed in *Convective Mixing of Plumes in a Coastal Environment*.<sup>9</sup> The Applicant's modeling analysis currently assumes that any offshore winds take pollution away permanently, when in fact this pollution could return in the daytime to impact City residents. A review of the LAX data from the SCAQMD website<sup>10</sup> shows that winds in the area blow offshore away from Redondo Beach from north to east about 30% of the time. The Applicant should be required to assess how much of this pollution impacts Redondo Beach.

---

<sup>6</sup> Interview with Jim Weisenberger, August 13, 2014.

<sup>7</sup> *Guideline on Air Quality Models*, Section 7.2.8.

<sup>8</sup> *Meteorological Monitoring Guidance for Regulatory Applications*, EPA-454/R-99-005, OAQPS, RTP, NC, Feb 2000), Section 3.4, p. 3-12.

<sup>9</sup> McRae, Gregory J., Shair, Fredrick H., and Seinfeld, John H., *Convective Downmixing of Plumes in a Coastal Environment*, Journal of Applied Meteorology, Vol. 20. No. 11, November 1981.

<sup>10</sup> South Coast Air Quality Management District, /www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod



Stagnation is defined by the *Guideline on Air Quality Models* as a condition when calm or low wind conditions lead to minimal dispersion with local accumulation of pollution, and potentially high ground-level concentrations.<sup>11</sup> The potential for stagnation conditions and trapping of pollution by terrain features near the power plant has not been addressed by the Applicant.

To evaluate offshore pollutant transport and accumulation with onshore transport as well as stagnation conditions, the Applicant should use the CALPUFF dispersion model to complete the analysis. CALPUFF includes advanced formulas for "following" pollutant emissions in space and time, and can be used to address fumigation and other special situations.

The meteorological data processed for AERMOD from the LAX site located six miles away from the site, and the San Diego upper air data, will not be appropriate or sufficient to evaluate these special conditions using CALPUFF. Staff should also consider whether more advanced review such as a new tracer study may be needed. The Applicant should obtain one year of representative surface data from a network of on-site and neighborhood meteorological monitoring sites, as well as upper air data from the Redondo Beach area. From the EPA *Meteorological Monitoring Guidance*,<sup>12</sup> "To provide representative measurements for the entire area of interest, multiple sites would be needed: one site at a shoreline location (to provide 10 m and stack height/plume height wind speed), and additional inland sites perpendicular to the orientation of the shoreline to provide wind speed within the TIBL, and estimates of the TIBL height. Where terrain in the vicinity of the shoreline is complex, measurements at additional locations, such as bluff tops, may also be necessary."

In the case of using the CALPUFF dispersion model or other advanced studies, surface data from other local sites and mesoscale data should also be input to improve model accuracy. The City recommends that these advanced plume studies consider current plant plumes, and the impact that they are currently having within the City. Such a study will be a good indicator or impacts from the future plant. In addition, as a condition for Certification, City of Redondo Beach requests that the Commission require a particulate monitoring network at several locations of maximum impact, to monitor and mitigate future soot and health impacts from the RBEP.

**c. The fumigation analysis completed by the Applicant using the SCREEN3 model is inadequate to describe conditions in the Redondo Beach area.**

The PSA p. 4.1-31 describes the plume fumigation analysis completed by the Applicant. As defined by Staff, "Inversion breakup fumigation occurs when a plume

---

<sup>11</sup> *Guideline on Air Quality Models*, Section 7.2.8.

<sup>12</sup> *Meteorological Monitoring Guidance for Regulatory Applications*, p. 3-12.

*is emitted into a stable layer of air and that layer is mixed to the ground in a short period of time through convective heating and microscale turbulence. Shoreline fumigation occurs when a plume is emitted into a stable layer and is then mixed to the surface as a result of advection of the air masses to less stable surroundings.”*

The Applicant used the SCREEN3 dispersion model to evaluate fumigation processes occurring when the RBEP plume is transported inland. However, the analysis was completed only for CO, NO<sub>2</sub> and SO<sub>2</sub>, and not for PM impacts.

The SCREEN3 output file was obtained for review. The one-hour average shoreline fumigation calculation based upon a 1 g/sec emissions input was 7.0 ug/m<sup>3</sup> at 1,467 meters from the stack. This value is 10 times higher than the maximum concentration calculated by SCREEN3 at 1,500 meters distance, 0.70 ug/m<sup>3</sup>. What this means is that, for every day fumigation occurs, a short-term impact with 10 times higher 1-hour concentration is added to the 24-hour and long-term average concentrations. If this impact happens once every day over 12 hours when winds blow onshore, and assuming the same concentrations in the other 11 hours, then the 24-hour and long-term average PM concentrations would be higher by about 75%, from  $(11 \times 1 + 1 \times 10) / 12$ . This indicates a potential serious deficiency in how the Applicant has reviewed the fumigation effect and local PM impacts.

The Applicant's SCREEN3 fumigation analysis also ignored building downwash that can lower the plume height, as well as the potential for much higher impacts at elevated terrain location along the bluff within 0.5 to one mile east of the RBEP site location. With terrain at the bluff exceeding stack heights, this could mean that the fumigation analysis has underestimated concentrations considerably. Also, the bluff may actually act to trap and hold pollutants within the City; this potential effect needs to be understood.

The City of Redondo Beach requests that Staff require the Applicant to perform a comprehensive and adequate review of localized fumigation and terrain impacts for all pollutants, but especially for PM and air toxic emissions. As stated above, the Applicant should use the CALPUFF dispersion model with onsite meteorological data to complete the analysis.

**2. The proposed Conditions for Certification do not require RBEP to provide local CEQA mitigation for PM emissions impacts.**

The PSA states that RBEP operational PM emissions will be fully offset by SCAQMD internal bank ERCs at a ratio of one-to-one, under Rule 1304(a)(2). The City of Redondo Beach understands that this is a District permitting requirement to maintain attainment with regional air quality standards. However, with regard to CEQA analysis, there is no assurance that significant local direct and secondary PM impacts within the City of Redondo Beach will be mitigated. The Applicant should be required to provide separate mitigation fees directly to City of Redondo Beach to offset local PM emission impacts to zero, in the amount of 54 TPY direct PM plus any secondarily formed PM.

Rule 1304(a)(2) partially exempts RBEP from the requirement to obtain emission offsets from the District's internal bank in order to obtain an air permit. The District is compensated for NO<sub>x</sub>, VOC, and PM<sub>10</sub> offsets under Rule 1304.1. RBEP will be required to pay fees for net PM<sub>10</sub> emissions increases. The fee is only for direct PM<sub>10</sub> emissions, and does not include secondarily formed PM<sub>2.5</sub> from emissions of the precursors ammonia, NO<sub>x</sub> and SO<sub>x</sub>. While the District Governing Board has directed SCAQMD staff to work with stakeholders to use funds from repower projects to improve air quality in the impacted communities,<sup>13</sup> there is no guarantee or other assurance this will be the case. The City of Redondo Beach does not anticipate that the SCAQMD will be willing and able to utilize these funds to reduce impacts within the City of Redondo Beach.

Rule 1325 implements federal New Source Review requirements for PM<sub>2.5</sub>. For purposes of this rule, SCAQMD has excluded ammonia emissions despite their role in secondary PM formation. Accordingly, SCAQMD will not be providing any PM<sub>2.5</sub> emission offsets from their Rule 1309.1 priority reserve despite the facility being a major source for ammonia emissions in excess of 100 TPY. The CEC should ensure that all secondary PM<sub>2.5</sub> emissions are mitigated by local offsets.

The SCAQMD requirement to offset emissions for an air permit should not be confused with local mitigation under CEQA. If the CEC can compel the SCAQMD to utilize Rule 1304.1 funds in Redondo Beach to reduce PM emissions in amounts equal to those proposed and along a foreseeable schedule, then these funds may be able to satisfy the CEQA mitigation requirement. Otherwise, Staff should direct the Applicant to develop a separate local PM mitigation fund equal to the projected payments to the SCAQMD, to include direct and secondarily formed emissions. The City of Redondo Beach is committed to working with Staff to identify offset projects such as diesel emissions reduction from trucks and marine craft, traffic flow improvements, wood stove replacement programs, alternative energy, and other projects.

### **3. Updated air quality studies should be completed to reflect current information and regulatory guidance.**

Due to the nearly one year lapse in RBEP proceedings, the City of Redondo Beach requests that Staff require the Applicant to update air quality analyses to include more recently available data and regulatory guidance. Staff should provide justification where updates are not required.

In particular, the air toxics health risk assessment in the PSA Public Health section should be updated to follow the *Draft Risk Assessment Procedures for Rules 1401, 1401.1 and 212*.<sup>14</sup> It is expected that this guidance will become final by June 5<sup>th</sup>,

---

<sup>13</sup> Nazemi, Mohsen, of SCAQMD, Air Credits in the South Coast Basin, Southern CA Reliability CEC IEPR lead Commissioner Workshop, UCLA, Aug 20, 2014.

<sup>14</sup> Draft Risk Assessment Procedures for Rules 1401, 1401.1 and 212, South Coast Air Quality Management District, Version 8.0, March 31, 2015.

2015. The SCAQMD has said that changes to state guidance will increase residential cancer risks from 3-6 times.<sup>15</sup> While Staff did perform manual calculations in anticipation of the new state risk assessment standards,<sup>16</sup> the air toxics health risk assessment should be updated to meet the revised SCAQMD risk assessment guidelines. If the updated calculations show significant risk impacts, then Conditions for Certification should be added to provide mitigation.

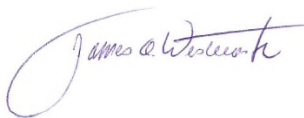
Other updates would include new review of the cleanest turbine technologies and emission controls, following EPA guidance to model secondary PM formation, and update the background data and model inputs. The City of Redondo Beach requests that, in light of higher cancer risks to residents and children, that the Applicant calculate the population cancer burden within the City of Redondo Beach, or within about two miles from the RBEP site. A cancer burden value greater than 0.5 would be considered significant and would require mitigation.<sup>17</sup>

In closing, the City of Redondo Beach is committed to protecting the health of its citizens. We appreciate the opportunity to provide these comments on air quality issues, and request that Staff take them into consideration in the RBEP proceedings.

Sincerely,

**BLUESCAPE ENVIRONMENTAL**

*a California Corporation*



James A. Westbrook  
President & CEO

---

<sup>15</sup> Public Workshop, Proposed Amended Rules to Implement Revised OEHHA Guidelines, April 1, 2015, South Coast AQMD.

<sup>16</sup> PSA, p. 4.8-21.

<sup>17</sup> SCAQMD Air Quality Significance Thresholds, [aqmf.gov/doc/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf](http://aqmf.gov/doc/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf), March 2015.

EXHIBIT E

**Note:** The previous mapping and table incorrectly included coastal water census blocks. The US Census Bureau sets coastal boundaries by extending census tracts and blocks out to a three-mile limit to include territorial seas. The updated mapping and table have been prepared without these coastal water census blocks. The area mapped and population density numbers have changed accordingly.

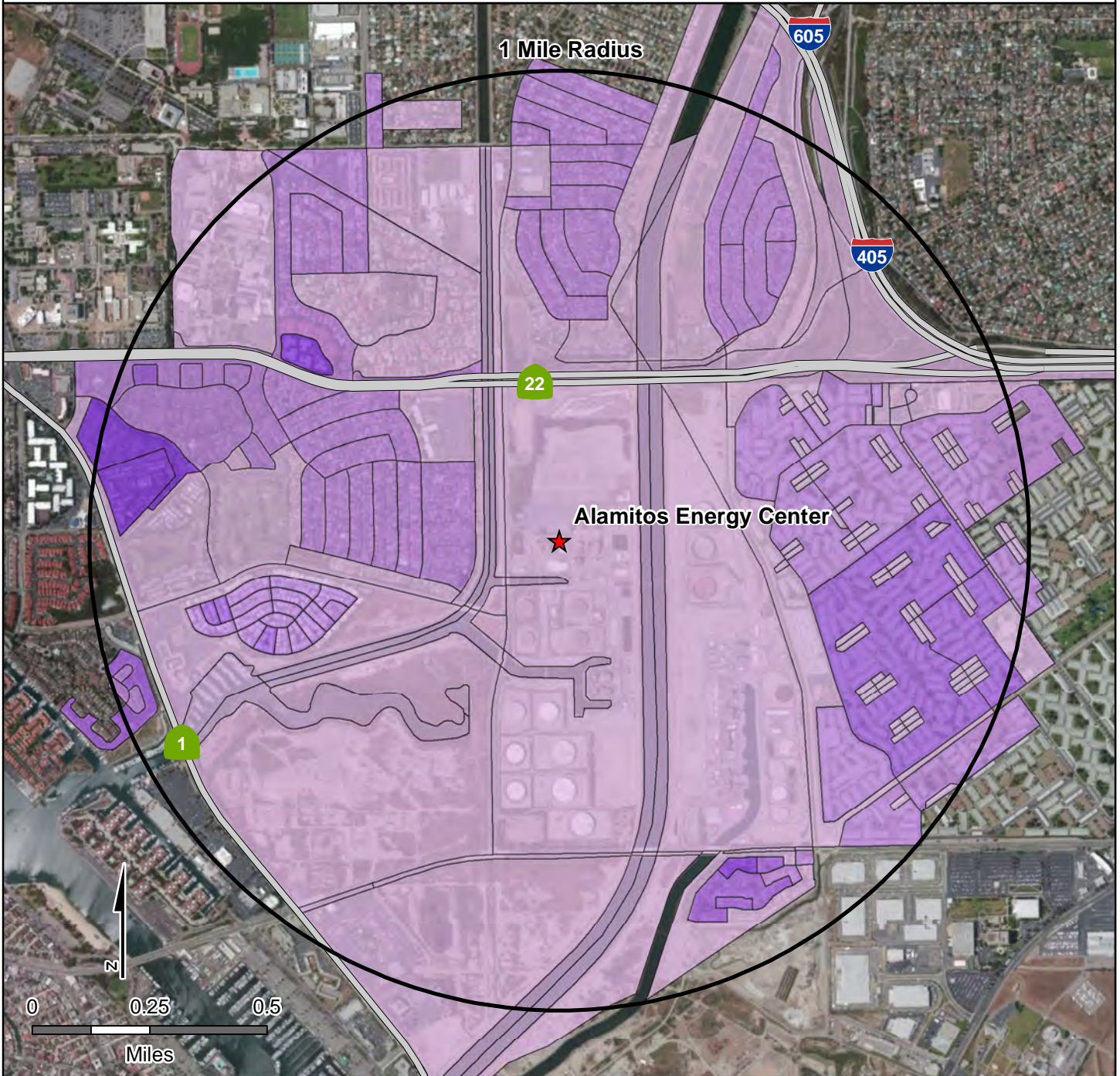
Select Power Plant	Population	Census Block Area (Mi <sup>2</sup> )	Population Density (Population/Mi <sup>2</sup> )
Alamitos Energy Center (13-AFC-01)	11,798	3.15	3,745.40
Carlsbad Energy Center (07-AFC-06)	6,648	2.53	2,627.67
El Segundo Energy Center (00-AFC-14)	6,760	2.19	3,086.76
Huntington Beach Energy Project (12-AFC-02)	8,731	1.72	5,076.16
Puente Power Project (P3) (15-AFC-01)	423	1.50	282.00
Redondo Beach Energy Project (12-AFC-03)	23,729	2.16	10,985.65

# Alamitos Energy Center (13-AFC-01)

Total Population: 11,798

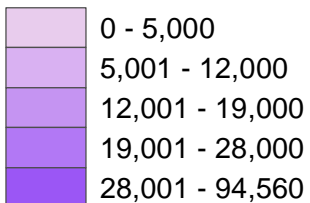
Total Census Block Area: 3.15 (Square Miles)

Population Density: 3,745.40 (Population/Square Mile)



## Population Density Per 2010 Census Block

### Population / Square Mile



Source: California Energy Commission & Census 2010 PL 94-171 Data

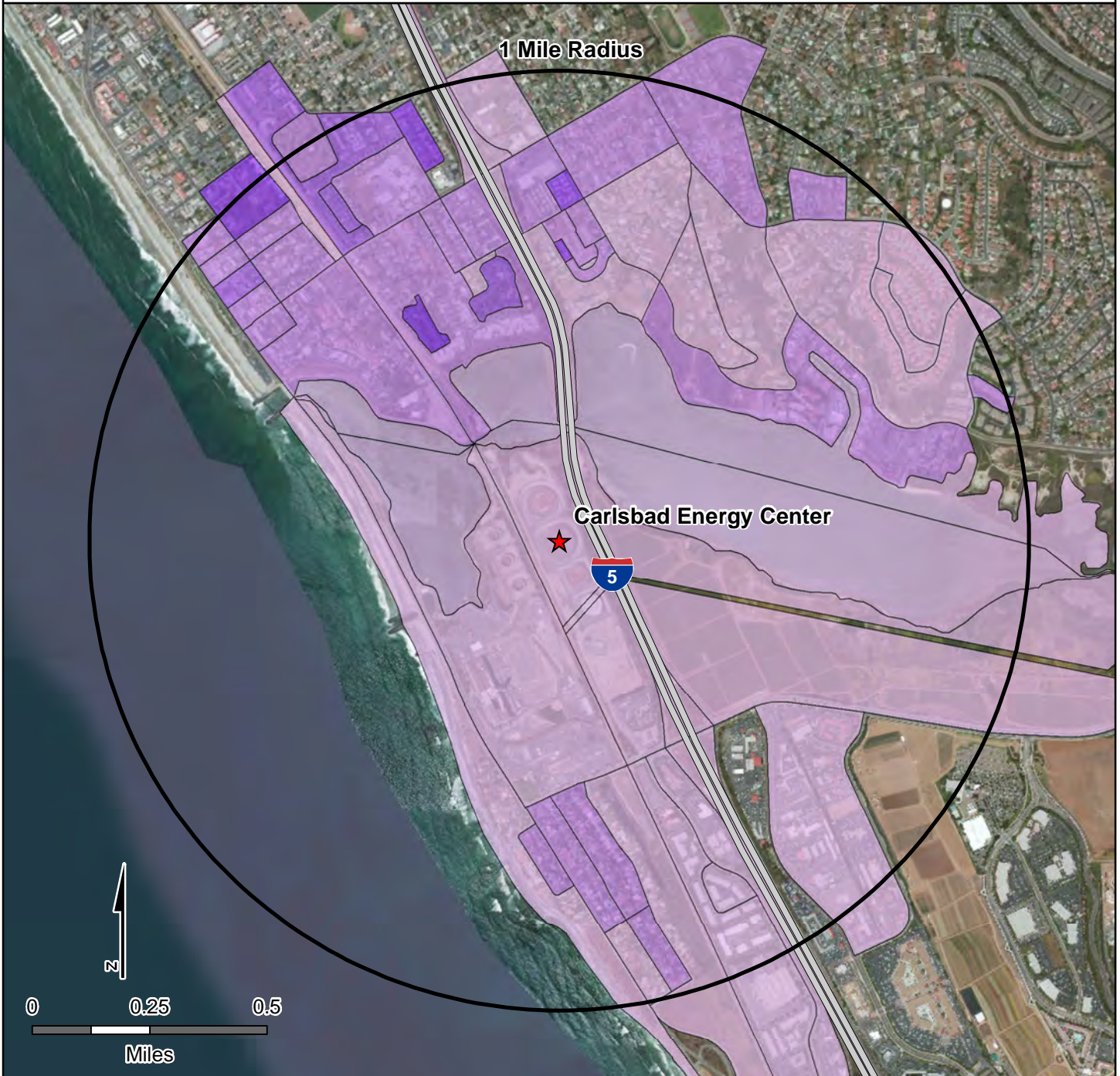


# Carlsbad Energy Center (07-AFC-06)

Total Population: 6,648

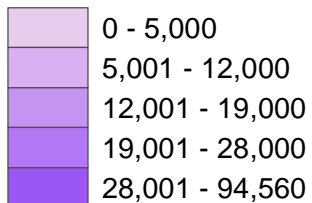
Total Census Block Area: 2.53 (Square Miles)

Population Density: 2,627.67 (Population/Square Mile)



## Population Density Per 2010 Census Block

### Population / Square Mile



Source: California Energy Commission & Census 2010 PL 94-171 Data



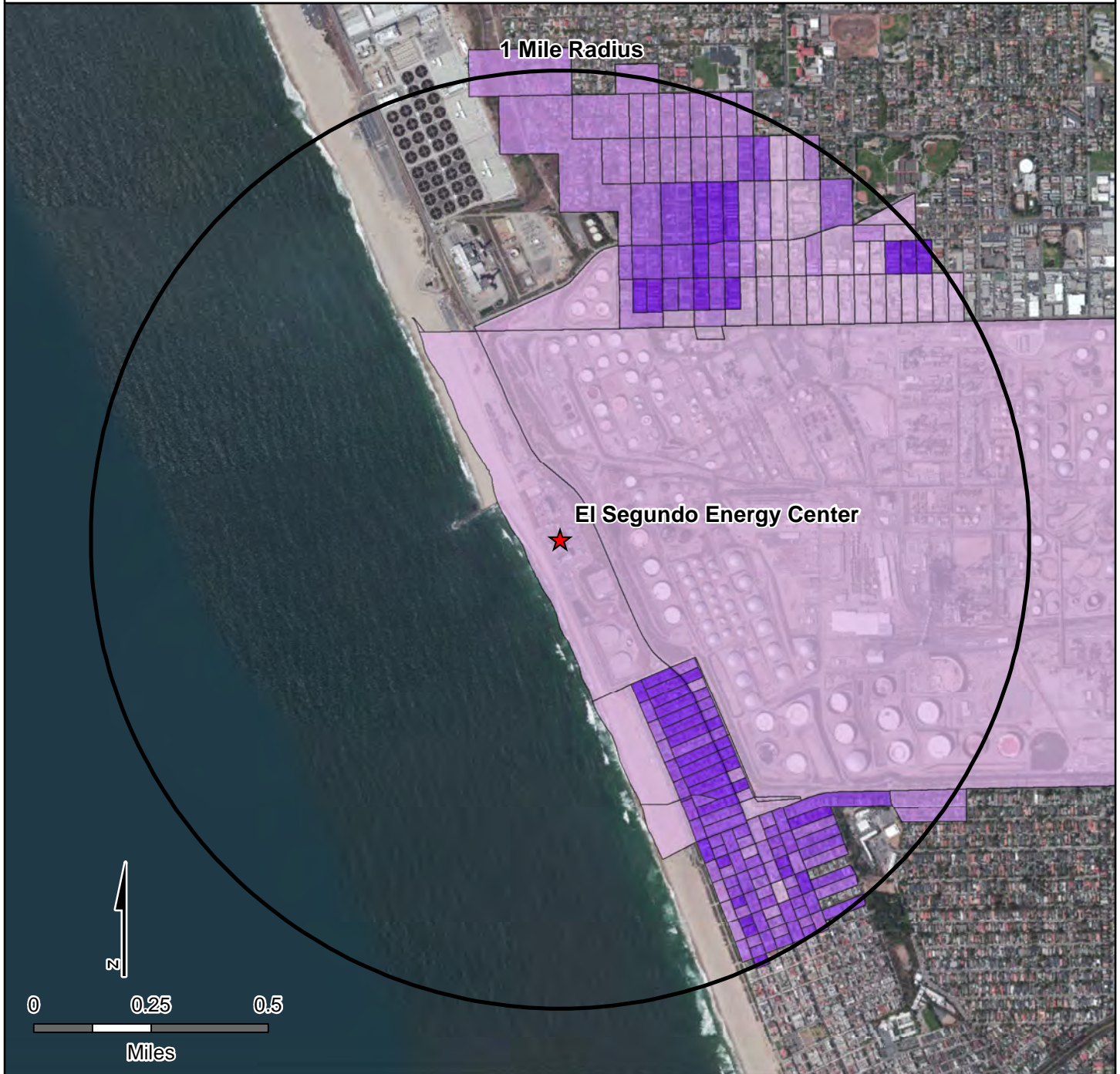


# El Segundo Energy Center (00-AFC-14)

Total Population: 6,760

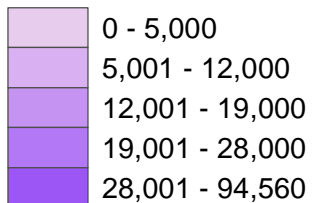
Total Census Block Area: 2.19 (Square Miles)

Population Density: 3,086.76 (Population/Square Mile)

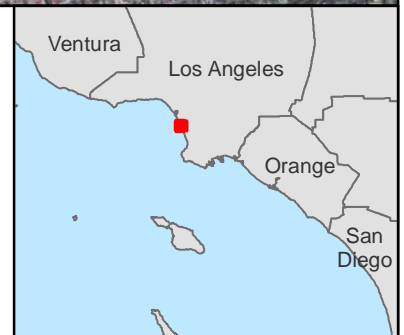


## Population Density Per 2010 Census Block

### Population / Square Mile



Source: California Energy Commission & Census 2010 PL 94-171 Data

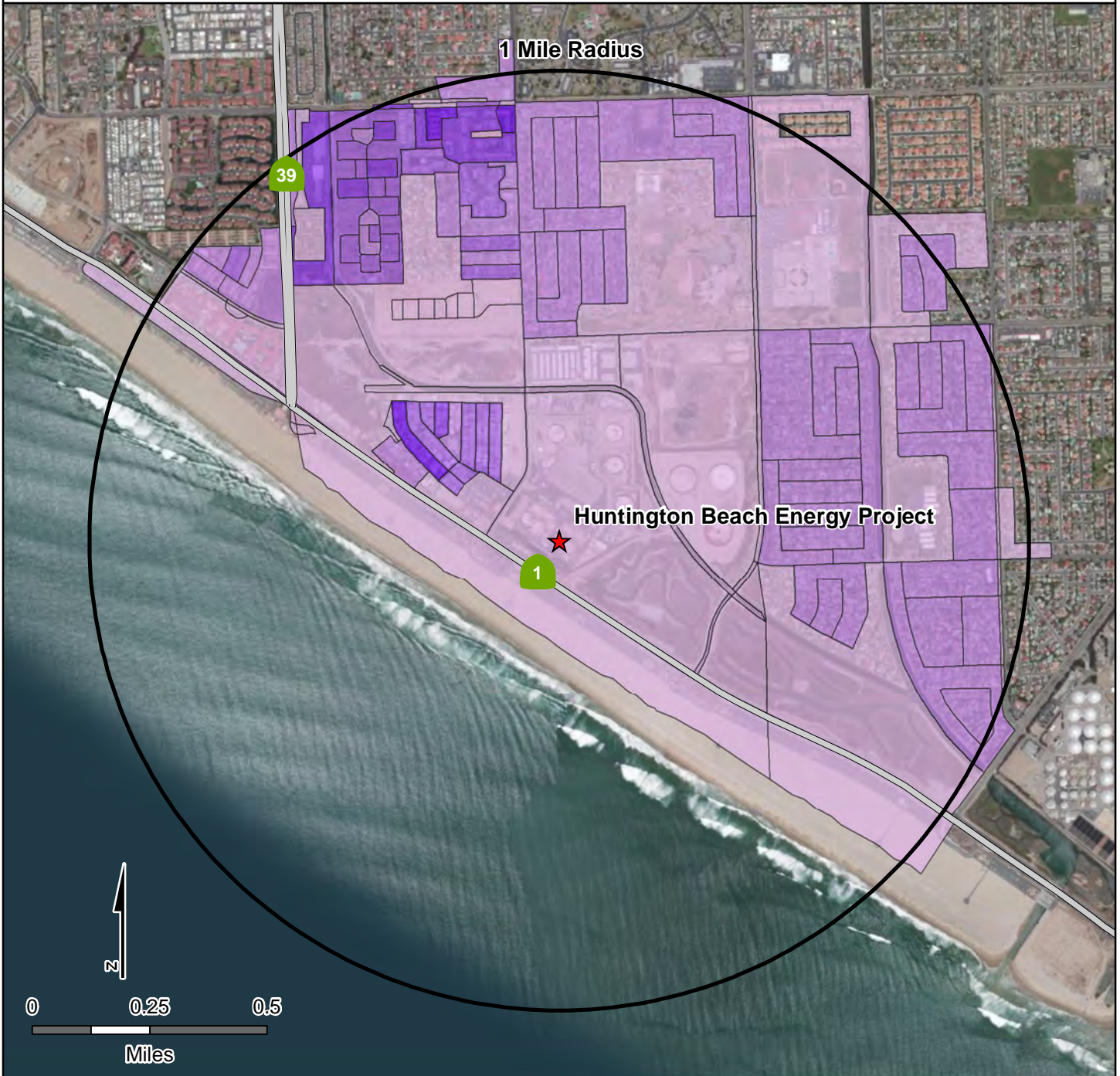


# Huntington Beach Energy Project (12-AFC-02)

Total Population: 8,731

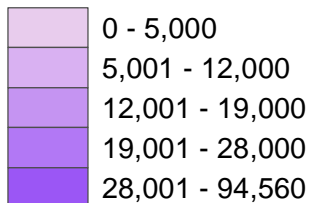
Total Census Block Area: 1.72 (Square Miles)

Population Density: 5,076.16 (Population/Square Mile)



## Population Density Per 2010 Census Block

### Population / Square Mile



Source: California Energy Commission & Census 2010 PL 94-171 Data

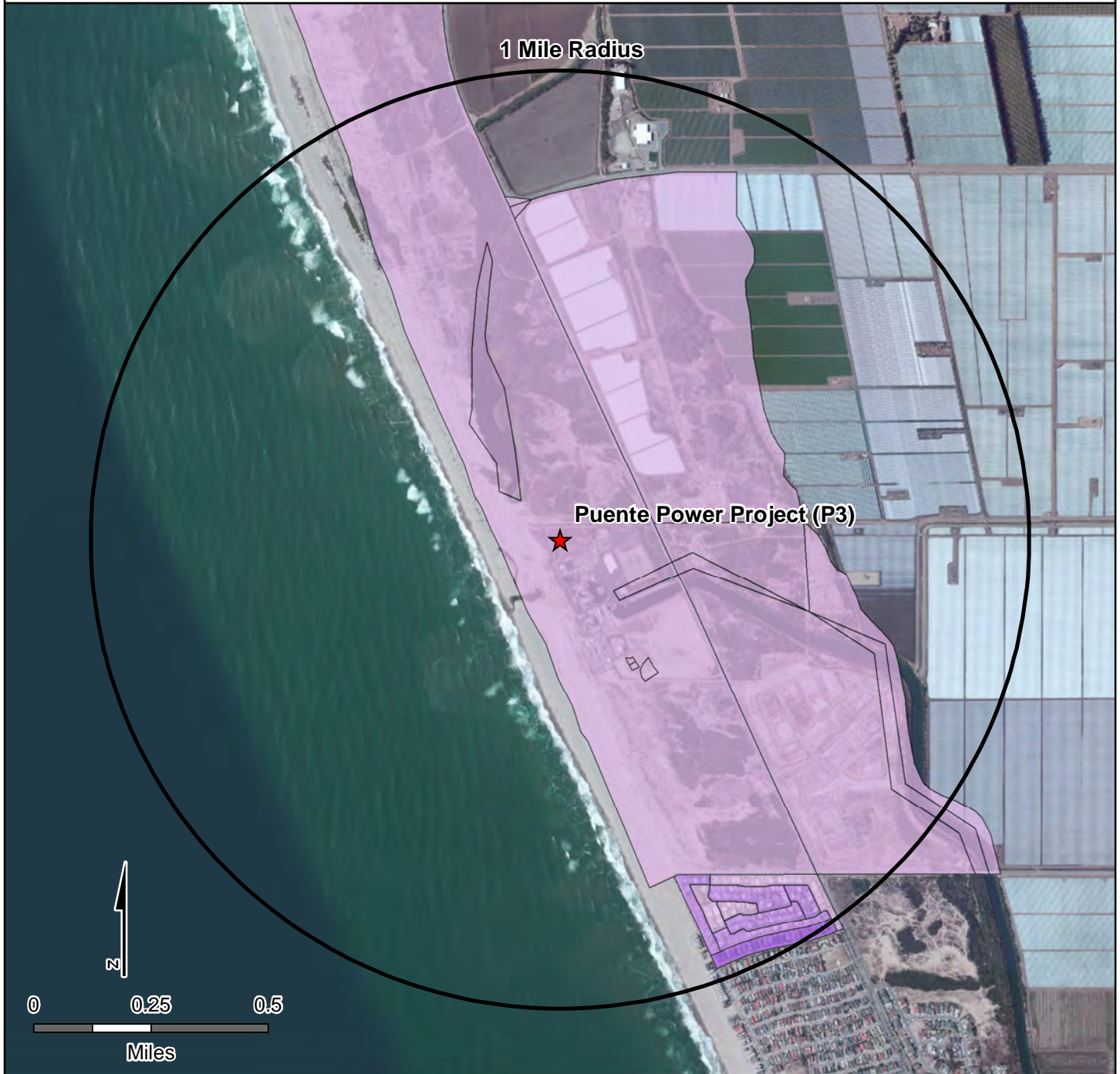


# Puente Power Project (P3) (15-AFC-01)

Total Population: 423

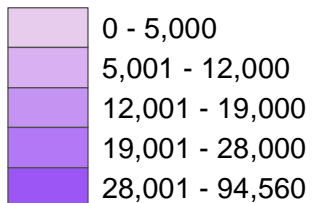
Total Census Block Area: 1.50 (Square Miles)

Population Density: 282.00 (Population/Square Mile)

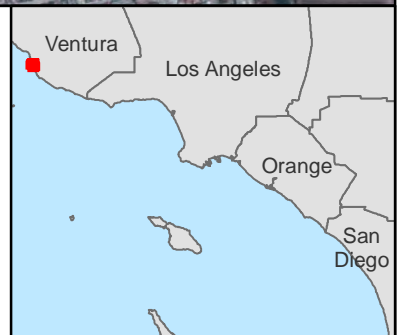


## Population Density Per 2010 Census Block

### Population / Square Mile



Source: California Energy Commission & Census 2010 PL 94-171 Data

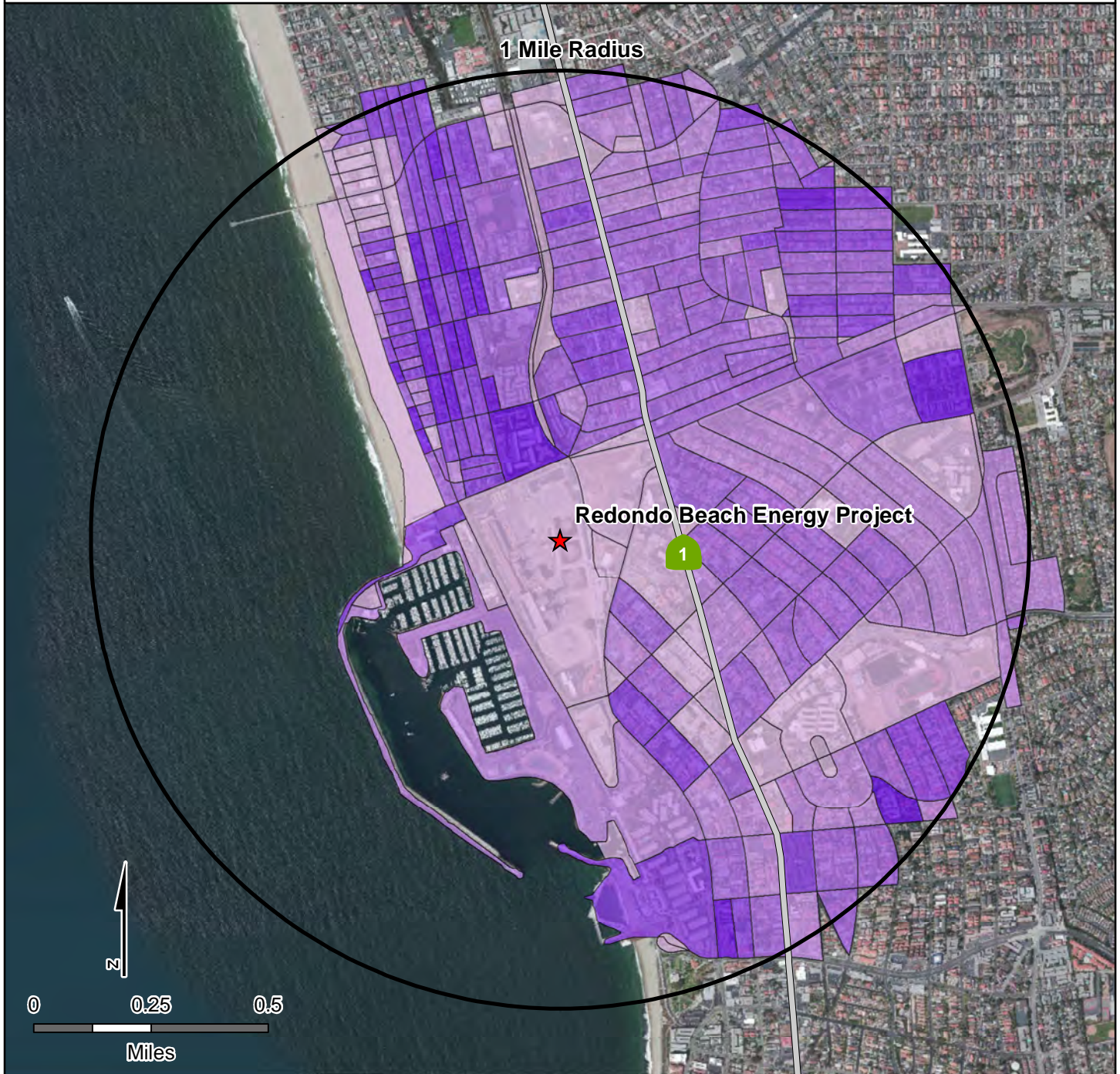


# Redondo Beach Energy Project (12-AFC-03)

Total Population: 23,729

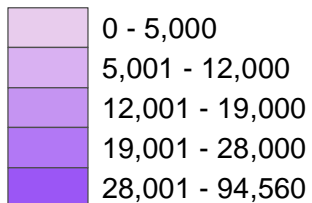
Total Census Block Area: 2.16 (Square Miles)

Population Density: 10,985.65 (Population/Square Mile)



## Population Density Per 2010 Census Block

### Population / Square Mile



Source: California Energy Commission & Census 2010 PL 94-171 Data

