

<b>DOCKET</b> <b>06-AFC-6</b>
DATE <u>JUL 15 2008</u>
RECD. <u>JUL 15 2008</u>

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA**

**APPLICATION FOR  
CERTIFICATION FOR THE  
EASTSHORE ENERGY CENTER IN  
HAYWARD BY TIERRA ENERGY**

DOCKET NO. 06-AFC-6  
(AFC Accepted 11/8/06)

**EASTSHORE ENERGY LLC'S SUBMISSION OF  
SUPPLEMENTAL TESTIMONY**

Jane E. Luckhardt  
Nicolaas W. Pullin  
DOWNEY BRAND LLP  
555 Capitol Mall, 10th Floor  
Sacramento, California 95814  
Telephone: (916) 444-1000  
FAX: (916) 444-2100  
E-mail: [jluckhardt@downeybrand.com](mailto:jluckhardt@downeybrand.com)  
**Attorneys for Eastshore Energy, LLC**

July 15, 2008

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SUPPLEMENTAL TESTIMONY**

Pursuant to the Notice of Availability of the Presiding Member's Proposed Decision and Notice of Evidentiary Hearing and Notice of Committee Conference, Eastshore Energy Center (Eastshore) hereby files the attached supplemental testimony.

DATED: July 15, 2008

DOWNEY BRAND LLP

By:   
Jane E. Luckhardt

STATE OF CALIFORNIA  
Energy Resources  
Conservation and Development Commission

In the Matter of:

Eastshore Energy Center Application  
for Certification

**DOCKET NO. 06-AFC-06**

**DECLARATION OF  
Gregory Darvin**

I, Gregory Darvin, declare as follows:

1. I am presently employed by Atmospheric Dynamics., as Principal
2. A copy of my professional qualifications and experience have been previously submitted.
3. I prepared the attached supplemental testimony relating to Air Quality.
4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Santa Barbara, CA on July 11, 2008.



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Testimony Regarding  
**Supplemental Air Quality Analysis of NO<sub>2</sub>  
Impacts**

**Eastshore Energy Center**

Hayward, California

Submitted to the:  
**California Energy Commission**

Submitted by:  
**Eastshore Energy, LLC**

With Technical Assistance by:



**CH2MHILL**

Oakland, California

July 15, 2008

# Supplemental Air Quality Analysis of NO<sub>2</sub> Impacts

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## A. Introduction

*Q 1 Please state your name, address and position.*

A 1 My name is Gregory Darvin. My work address is 2925 Puesta del Sol, Santa Barbara, California 93105. I work as a Meteorologist for Atmospheric Dynamics, Inc. I have been involved in air pollution meteorology and dispersion modeling for the past fifteen years. I have extensive experience in air quality modeling, monitoring, permitting, complex terrain model development and implementation, emissions inventories, and health risk assessments. My experience spans more than thirty states and several countries. I performed or directed all of the prior ambient air quality modeling for the Eastshore Energy Center (EEC) project.

*Q 2 Please describe the purpose of your testimony.*

A 2 The purpose of my testimony is to summarize supplemental, refined dispersion modeling that has been performed to evaluate EEC compliance with the new NO<sub>2</sub> ambient air quality standards, as directed by the Committee.

## B. Air Quality

*Q 3 Can you please summarize the recent changes that were made to the NO<sub>2</sub> standards?*

A 3 On February 23, 2007, the ARB approved a lowered 1-hour NO<sub>2</sub> standard of 0.18 ppm (339 µg/m<sup>3</sup>) and a new annual-average NO<sub>2</sub> standard of 0.030 (57 µg/m<sup>3</sup>). These changes become effective on March 20, 2008.

*Q 4 Have you completed supplemental air quality impact analyses to address EEC impacts relative to these new standards?*

A 4 Yes. I have completed refined project-only and cumulative multi-source modeling impact analyses to demonstrate compliance with the lower 1-hour NO<sub>2</sub> standard.

*Q 5 Please describe the methodology you followed to evaluate EEC impacts and the corresponding results relative to these new standards in your supplemental air quality impact analysis.*

A 5 One-hour NO<sub>2</sub> impacts in the project-only analysis presented in the original application and the cumulative multi-source modeling analysis provided to the CEC/BAAQMD in April/May 2007 were revised in accordance with BAAQMD Permit Modeling Guidance (June 2007) for a Refined Air Quality Impact Analysis. The BAAQMD Guidance requires the use of the tiered screening approach as described in USEPA's "Supplement C to the *Guideline on Air Quality Models*" for evaluating the conversion of NO to NO<sub>2</sub>. The Tier 3 Ozone Limiting Method (OLM) referenced in BAAQMD/USEPA guidance documents uses both hourly ozone and background NO<sub>2</sub> concentrations. In the previous analyses, only hourly ozone concentrations were used to calculate 1-hour NO<sub>2</sub> impacts, which were conservatively added to maximum measured 1-hour NO<sub>2</sub> background concentrations for the entire three-year (2003-2005) period.

In the supplemental 1-hour NO<sub>2</sub> analyses, the previous analyses were revised to consider concurrent 1-hour NO<sub>2</sub> background data in the calculations (corrected for 2003-2005 maximum NO<sub>2</sub> background concentrations where applicable) as specified for Tier 3 OLM analyses. The maximum total (modeled sources plus background) 1-hour NO<sub>2</sub> concentrations were 288.73 ug/m<sup>3</sup> for both project-only impacts and cumulative multi-source impacts. Therefore the EEC will comply with the new 1-hr NO<sub>2</sub> standard. Relevant modeling files associated with this effort are included on the CD attached to this testimony. Annual NO<sub>2</sub> impacts presented previously (original application and April/May 2007 submittal) were 35.22 ug/m<sup>3</sup> for project-only impacts and 35.36 ug/m<sup>3</sup> for cumulative multi-source impacts. Since these impacts already comply with the new annual California NO<sub>2</sub> standard, no supplemental analyses were required for annual NO<sub>2</sub> impacts.

Q 6 *Was this methodology previously approved?*

A 6 Yes. The OLM method was specifically addressed in the project's modeling protocol that was submitted to both the BAAQMD and the CEC. The Tier 3 analysis is a specifically identified refinement of the OLM method in the BAAQMD Permit Modeling Guidance and USEPA Guideline on Air Quality Models. I also specifically discussed the Tier 3 methodology with BAAQMD staff and received verbal concurrence of the approach prior to completing the original and supplemental analyses.

STATE OF CALIFORNIA  
Energy Resources  
Conservation and Development Commission

In the Matter of:

Eastshore Energy Center Application  
for Certification

**DOCKET NO. 06-AFC-06**

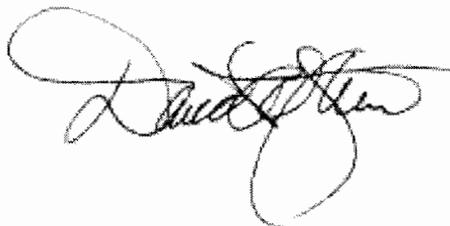
**DECLARATION OF  
David A. Stein**

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I, David A. Stein, declare as follows:

1. I am presently employed by CH2M HILL, Inc., as a Vice President, Industrial Systems.
2. A copy of my professional qualifications and experience have been previously submitted.
3. I prepared the attached supplemental testimony relating to Public Health.
4. It is my professional opinion that the attached prepared testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Oakland, CA on June 15, 2008.



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**Supplemental Testimony Regarding**

**Public Health**

**Eastshore Energy Center**

Hayward, California

Submitted to the:  
**California Energy Commission**

Submitted by:  
**Eastshore Energy, LLC**

With Technical Assistance by:



**CH2MHILL**

Oakland, California

July 15, 2008

# Public Health

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## A. Introduction

Q1 *Please state your name, address, position and qualifications.*

A1 David A. Stein.  
Vice President, Industrial Systems  
CH2M HILL.  
155 Grand Avenue, Suite 1000  
Oakland, CA 94612

Formal Education:

MS Environmental Health Engineering (Air Quality Emphasis), University of Texas at Austin  
BS, Environmental Engineering, University of California at Irvine  
BS, Biological Sciences, University of California at Irvine

Certification:

Registered Chemical Engineer, California CH004285, 1984

Relevant Experience:

Project Manager, Eastshore Energy Center  
More than 30 years experience conducting air quality and public health risk assessments of industrial facilities (including power plants), including criteria and toxic emissions calculations, control technology assessments, regulatory compliance analysis, atmospheric dispersion modeling, public health risk assessments, visibility impact analysis, ambient air quality analysis and source testing on behalf of governmental agencies and commercial clients

Q2 *Please describe the purpose of your testimony.*

A2 The purpose of my testimony is to provide evidence on the relevance of ambient air quality data provided in the March 19 draft report titled "Diesel Particulate Matter Health Risk Assessment For The West Oakland Community" for purposes of characterizing ambient air quality in the East Bay for the public health risk assessment required by condition PUBLIC HEALTH-1 as directed by the Committee.

## B. Public Health

Q3 *Can you please describe the March 19 California Air Resources Board (ARB) draft report titled "Diesel Particulate Matter Health Risk Assessment for the West Oakland Community"?*

A3 The ARB conducted a health risk assessment (HRA) to help understand the emissions impacts and the potential public health risk from exposures to diesel particulate matter (PM) associated with activities at the Port, the Union Pacific (UP) Railyard, and other significant sources of diesel exhaust in and near the West Oakland community. The impacts from diesel PM emissions on the West Oakland community as well as on the broader regional San Francisco Bay Area were evaluated. This study was a cooperative effort between the ARB and the Bay Area Air Quality Management District (BAAQMD). Both the Port and the UP assisted by providing information on their local marine and rail operations located near the West Oakland community. The study was designed to enhance the understanding of diesel PM emission impacts by evaluating the current and future contributions of diesel PM emissions from sources at the Port, the Union Pacific Railyard, local freeways and other sources of diesel PM near the West Oakland community on the potential health impacts for people living in the West Oakland community.

Q4 *Was new ambient air quality data collected as part of the study?*

A4 No. The study was a modeling evaluation of impacts of present and future Port and UP Railyard operations from diesel PM. The study entailed the development of a detailed emission inventory for diesel PM from Port and UP Railyard operations and the subsequent health risk modeling of those emissions.

Q5 *Where pollutants other than diesel PM considered in the study?*

A5 No. The study focused on diesel PM only.

Q6 *Is the Eastshore Energy Center a source of diesel PM?*

A6 The fourteen main engines associated with the Eastshore Energy Center are not a source of diesel PM, since the facility would burn natural gas, not diesel. The project would include a small diesel-fired emergency "black start" generator that would not normally operate except under emergency conditions or for limited emissions and reliability testing.

Q7 *Is the ARB study relevant to the HRA required to be performed under proposed condition PUBLIC HEALTH-1?*

A7 No. The purpose of the PUBLIC HEALTH-1 is to validate the pre-project HRA results that were based on published and accepted emission factors by performing a second HRA using actual emissions data collected from stack measurements of

the fully constructed Eastshore Energy Center. The ARB assessment of diesel PM from Port and UP Railyard operations provides no data that would be relevant to the completion of the post-project HRA required under PUBLIC HEALTH-1.

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OF THE STATE OF CALIFORNIA**

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THE EASTSHORE ENERGY CENTER  
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BY TIERRA ENERGY**

**DOCKET NO. 06-AFC-6  
(AFC Accepted 11/8/06)**

**PROOF OF SERVICE  
(Revised 4/21/08)**

INSTRUCTIONS: All parties shall either (1) send an original signed document plus 12 copies or (2) mail one original signed copy AND e-mail the document to the address for the docket as shown below, AND (3) all parties shall also send a printed or electronic copy of the document, which includes a proof of service declaration to each of the individuals on the proof of service list shown below:

**CALIFORNIA ENERGY COMMISSION**

Attn: Docket No. 06-AFC-6  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

<p>Greg Trewitt, Vice President Tierra Energy 710 S. Pearl Street, Suite A Denver, CO 80209 <a href="mailto:greg.trewitt@tierraenergy.com">greg.trewitt@tierraenergy.com</a></p>	<p>David A. Stein, PE, Vice President CH2M Hill 155 Grand Avenue, Suite 1000 Oakland, CA 94612 <a href="mailto:dstein@ch2m.com">dstein@ch2m.com</a></p>
<p>Jennifer Scholl, Senior Program Manager CH2M Hill 610 Anacapa Street, Suite B5 Santa Barbara, CA 93101 <a href="mailto:jscholl@ch2m.com">jscholl@ch2m.com</a></p>	<p>Harry Rubin, Executive Vice President RAMCO Generating Two 1769 Orvietto Drive Roseville, CA 95661 <a href="mailto:hmrenergy@msn.com">hmrenergy@msn.com</a></p>
<p>Jane Luckhardt, Esq. Downey Brand, LLP 555 Capitol Mall, 10th Floor Sacramento, CA 95814 <a href="mailto:jluckhardt@downeybrand.com">jluckhardt@downeybrand.com</a></p>	<p>Larry Tobias CA Independent System Operator 151 Blue Ravine Road Folsom, CA 95630 <a href="mailto:ltobias@caiso.com">ltobias@caiso.com</a></p>
<p>Pillsbury Winthrop Shaw Pittman LLP Attn: Diana Graves, Esq. Attn: Michael Hindus, Esq. 50 Fremont Street San Francisco, CA 94120 <a href="mailto:diana.graves@pillsburylaw.com">diana.graves@pillsburylaw.com</a> <a href="mailto:michael.hindus@pillsburylaw.com">michael.hindus@pillsburylaw.com</a></p>	<p>Richard Winnie, Esq. Alameda County Counsel Att: Andrew Massey, Esq. 1221 Oak Street, Rm. 463 Oakland, CA 94612 <a href="mailto:richard.winnie@acgov.org">richard.winnie@acgov.org</a> <a href="mailto:andrew.massey@acgov.org">andrew.massey@acgov.org</a></p>

James Sorrenson Alameda County Development Agency Attn: Chris Bazar & Cindy Horvath 224 West Winton Avenue, Room 110 Hayward, CA 94544 <a href="mailto:james.sorensen@acgov.org">james.sorensen@acgov.org</a> <a href="mailto:chris.bazar@acgov.org">chris.bazar@acgov.org</a> <a href="mailto:cindy.horvath@acgov.org">cindy.horvath@acgov.org</a>	Greg Jones, City Manager City of Hayward 777 B Street Hayward, CA 94541 <a href="mailto:greg.jones@hayward-ca.gov">greg.jones@hayward-ca.gov</a> <a href="mailto:maureen.conneely@hayward-ca.gov">maureen.conneely@hayward-ca.gov</a> <a href="mailto:michael.sweeney@hayward-ca.gov">michael.sweeney@hayward-ca.gov</a> <a href="mailto:david.rizk@hayward-ca.gov">david.rizk@hayward-ca.gov</a>
Law Office of Jewell J. Hargleroad Jewell J. Hargleroad, Esq. 1090 B Street, No. 104 Hayward, CA 94541 <a href="mailto:jewellhargleroad@mac.com">jewellhargleroad@mac.com</a>	Jay White, Nancy Van Huffel, Wulf Biueschke & Suzanne Barba San Lorenzo Village Homes Assn. 377 Paseo Grande San Lorenzo, CA 94580 <a href="mailto:jwhite747@comcast.net">jwhite747@comcast.net</a> <a href="mailto:slzvha@aol.com">slzvha@aol.com</a> <a href="mailto:wulf@vs-comm.com">wulf@vs-comm.com</a> <a href="mailto:suzbarba@comcast.net">suzbarba@comcast.net</a>
Paul N. Haavik 25087 Eden Avenue Hayward, CA 94545 <a href="mailto:lindampaulh@msn.com">lindampaulh@msn.com</a>	
Charlotte Lofft & Susan Sperling Chabot College Faculty Association 25555 Hesperian Way Hayward, CA 94545 <a href="mailto:clofft@chabotcollege.edu">clofft@chabotcollege.edu</a> <a href="mailto:ssperling@chabotcollege.edu">ssperling@chabotcollege.edu</a>	Libert Cassidy Whitmore Attn: Laura Schulking, Esq. Attn: Arlin B. Kachalia, Esq. 153 Townsend Street, Suite 520 San Francisco, CA 94107 <a href="mailto:lschulkind@lcwlegal.com">lschulkind@lcwlegal.com</a> <a href="mailto:akachalia@lcwlegal.com">akachalia@lcwlegal.com</a>
Robert Sarvey 501 W. Grantline Rd. Tracy, CA 95376 <a href="mailto:sarveybob@aol.com">sarveybob@aol.com</a>	
Jeffrey D. Byron, Presiding Member <a href="mailto:jbyron@energy.state.ca.us">jbyron@energy.state.ca.us</a>	
Susan Gefter, Hearing Officer <a href="mailto:sgefter@energy.state.ca.us">sgefter@energy.state.ca.us</a>	Caryn Holmes, Staff Counsel <a href="mailto:cholmes@energy.state.ca.us">cholmes@energy.state.ca.us</a>
Bill Pfanner <a href="mailto:bpfanner@energy.state.ca.us">bpfanner@energy.state.ca.us</a>	Public Adviser <a href="mailto:pao@energy.state.ca.us">pao@energy.state.ca.us</a>

### DECLARATION OF SERVICE

I, Lois Navarrot, declare that on July 15, 2008, I deposited copies of the attached **EASTSHORE ENERGY LLC'S SUBMISSION OF SUPPLEMENTAL TESTIMONY** in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

**OR**

Transmission via electronic mail was consistent with the requirements of the California Code of Regulations, title 20, sections 1209, 1209.5 and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.



Handwritten signature of Lois Navarrot in cursive script, written over a horizontal line.

Lois Navarrot