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DOCKET	
07-AFC-3	
DATE	APR 21 2010
RECD.	APR 21 2010

April 21, 2010

VIA FEDEX

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 07-AFC-3
1516 Ninth Street, MS-4
Sacramento, California 95814-5512

File No. 030137-0012

Re: CPV Sentinel Energy Project: Docket No. 07-AFC-3

Dear Sir/Madam:

Pursuant to the California Energy Commission's Notice of Prehearing Conference and Evidentiary Hearing on the Limited Issue of Air Quality, and pursuant to California Code of Regulations, title 20, sections 1209, 1209.5, and 1210, enclosed herewith for filing please find the following documents:

1. Declaration of Mark Turner Regarding Air Quality;
2. Declaration of John Lague Regarding Air Quality; and
3. Applicant's Tentative Exhibit and Declaration List (Air Quality Only).

Please note that the enclosed submittal was filed today via electronic mail to your attention and to all parties on the attached proof of service list.

Very truly yours,



Paul E. Kihm
Senior Paralegal

Enclosures

cc: CEC 07-AFC-3 Proof of Service List (w/encls., via e-mail and U.S. Mail)
Michael J. Carroll, Esq. (w/encls.)
Marc T. Campopiano, Esq. (w/encls.)

APPLICANT'S TENTATIVE EXHIBIT AND DECLARATION LIST (AIR QUALITY ONLY)

CPV SENTINEL ENERGY POWER PLANT PROJECT

Docket No. 07-AFC-03

(as of 4/21/10)

Exhibit No.	CEC Log No.	Date	Description	Topic Area	Sponsoring Party	Pages
7.	41166	6/25/07	AFC Section 7.1 – Air Quality	Air Quality	J. Lague M. Turner	81
33.	41166	6/25/07	AFC Appendix I-1 – Seasonal Wind Roses	Air Quality	J. Lague	4
34.	41166	6/25/07	AFC Appendix I-2 – Construction Emissions	Air Quality	J. Lague	9
35.	41166	6/25/07	AFC Appendix I-3 – Operating Emissions	Air Quality	J. Lague	16
36.	41166	6/25/07	AFC Appendix I-4 – Greenhouse Emissions	Air Quality	J. Lague	3
37.	41166	6/25/07	AFC Appendix I-5 – Modeling Protocol	Air Quality	J. Lague	36
38.	41166	6/25/07	AFC Appendix I-6 – VISCREEN and PLUVUE 2 Modeling Inputs	Air Quality	J. Lague	17
39.	41166	6/25/07	AFC Appendix I-7 – BACT Analysis	Air Quality	J. Lague	7
62.	41768	7/31/07	Permit To Construct / Permit To Operate Application For the CPV Sentinel Energy Project	Air Quality	J. Lague	343
63.	43226	11/05/07	CD Copy of Air Dispersion Model Input and Output in Response to Data Request 3	Air Quality	J. Lague	1 CD
87.	47861	8/29/08	FDOC for CPV Sentinel Proposed 850 Megawatt Power Plant Project	Air Quality	J. Lague M. Turner (unless sponsored by SCAQMD)	165
92.	48424	10/03/08	CPV Sentinel Construction Emissions	Air Quality	J. Lague	11
138.	54001	10/30/09	Applicant's Air Permit Application Amendment to SCAQMD	Air Quality	J. Lague	101
139.	54430	12/11/09	Air Dispersion Modeling Data related to the Amended Application for the Permit To Construct/Permit to Operate	Air Quality	J. Lague	2 (and a CD)
140.	46187	5/07/08	SCAQMD's Preliminary Determination of Compliance	Air Quality	J. Lague M. Turner (unless sponsored by SCAQMD)	207
141.	55739	3/02/10	SCAQMD Addendum to Determination of Compliance and POC	Air Quality	J. Lague M. Turner (unless sponsored by SCAQMD)	196

CPV SENTINEL ENERGY POWER PLANT PROJECT
Docket No. 07-AFC-03

Exhibit No.	CEC Log No.	Date	Description	Topic Area	Sponsoring Party	Pages
142.	pending	4/20/10	CPUC Decision	Air Quality	M. Turner	19
143.	N/A	12/19/09	Declaration of John Lague regarding Air Quality	Air Quality	J. Lague	9
144.	N/A	12/19/09	Declaration of Mark Turner regarding Air Quality	Air Quality	M. Turner	6

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4 Attorneys for Applicant

5 State of California
6 Energy Resources
7 Conservation and Development Commission

9 IN THE MATTER OF:
10 APPLICATION FOR CERTIFICATION
FOR THE CPV SENTINEL ENERGY
11 PROJECT BY CPV SENTINEL, L.L.C.

Docket No. 07-AFC-03
DECLARATION OF MARK TURNER
REGARDING AIR QUALITY

12
13 I, Mark Turner, declare as follows:

14 1. I am a Vice President with Competitive Power Ventures, the parent
15 company of CPV Sentinel, LLC, and am duly authorized to make this declaration for the CPV
16 Sentinel Energy Project (07-AFC-03) (Project). Except where stated on information and belief,
17 the facts set forth herein are true of my own personal knowledge and the opinions set forth herein
18 are true and correct articulations of my opinions. If called as a witness, I could and would testify
19 competently to them.

20 2. I earned an M.A. from Columbia University and a B.A. from California
21 State University, Sacramento. I have over 15 years of experience in the permitting and
22 development of electric energy projects. I have led power generation development efforts from
23 inception through financial closing. A copy of my current curriculum vitae will be filed
24 concurrently with this declaration.

25 3. I have reviewed and am familiar with Section 7.1, Air Quality (Exhibit
26 No. 7) of the Application for Certification (AFC) in this docket. Section 7.1 describes the
27 Project's potential air quality impacts and applicable permitting requirements of the South Coast
28 Air Quality Management District (SCAQMD). The emission offset proposal for the Project has

1 been modified from what was presented in the AFC. The revised emission offset proposal is
2 fully described in the March 2, 2010 Addendum to the Determination of Compliance submitted
3 by the SCAQMD to the CEC (Exhibit No. 141).

4 4. At the time the AFC was submitted to the CEC, the Project intended to
5 rely on SCAQMD Rule 1309.1 - Priority Reserve, as amended on August 3, 2007, as its source
6 of emission offsets for particulate matter less than ten microns (PM10) and sulfur oxides (SOx).
7 A ruling in California Superior Court¹ precluded that option, at least for the near term.
8 California Assembly Bill (AB) 1318 approved on September 11, 2009² added Section 40440.14
9 to the California Health and Safety Code, which establishes an alternative emission offset
10 strategy for the Project. In summary, subject to certain requirements discussed below, Section
11 40440.14 directs the SCAQMD to transfer from its internal emission credit accounts to any
12 eligible electrical generating facility sufficient quantities of PM10 and SOx emission credits to
13 permit the eligible facility.

14 5. Section 40440.14(a) requires that the Executive Office of the SCAQMD
15 find that the eligible electrical generating facility meets the requirements of the applicable new
16 source review rule and all other applicable district regulations. In the March 2, 2010 Addendum
17 to the Determination of Compliance (Exhibit No. 141), SCAQMD staff concluded that the
18 Project satisfies these requirements.

19 6. Section 40440.14 applies to certain eligible electrical generating facilities
20 that meet all of the following requirements: (1) the facility is subject to the permitting
21 jurisdiction of the CEC; (2) the facility has a power purchase agreement, executed on or before
22 December 31, 2008, to provide electricity to a public utility, as defined in Section 216 of the
23 California Public Utilities Code, subject to regulation by the California Public Utilities
24 Commission (CPUC), for use within the Los Angeles Basin Local Reliability Area; and (3) the

25 _____
26 ¹ See *NRDC et al. v. SCAQMD*, Case Number B110792.

27 ² AB 1318 was introduced by Assembly Member V. Manuel Perez on February 27, 2009. The California
28 Legislature adopted AB 1318 on September 11, 2009. AB 1318 was approved by the Governor and filed with
the Secretary of State on October 11, 2009. AB 1318 became effective on January 1, 2010.

1 facility is under the jurisdiction of the SCAQMD, but not within the South Coast Air Basin. As
2 indicated in the March 2, 2010 Addendum to the Determination of Compliance (Exhibit No.
3 141), the Project meets the above requirements. Further evidence that the Project meets
4 requirement (2) above is provided in the CPUC Decision 08-04-011, issued April 11, 2008
5 (Exhibit No. 142).³

6 7. Within 60 days of the effective date of Section 40440.14, the SCAQMD
7 was required to report to the CEC the emission credits to be transferred to any eligible facility
8 pursuant to Section 40440.14(c). The March 2, 2010, Addendum to the Determination of
9 Compliance (Exhibit No. 141) satisfies this requirement and identifies the SOx and PM10
10 emission credits that will be transferred to the Project pursuant to AB 1318. The Addendum to
11 the Determination of Compliance supplements the Preliminary Determination of Compliance
12 (Exhibit No. 140) and the Final Determination of Compliance (Exhibit No, 87) for the Project.

13 8. Section 40440.14(c) requires that the CEC determine whether the emission
14 credits to be transferred satisfy all applicable legal requirements. On April 15, 2010, CEC Staff
15 issued its Final Staff Assessment Air Quality Addendum in which it determined that the emission
16 credits to be transferred to the Project satisfy all applicable legal requirements.⁴

17 9. Section 40440.14(e) prevents the transfer of emission credits to an eligible
18 electrical generating facility prior to the payment of mitigation fees by the applicant to the
19 SCAQMD. Applicant intends to pay the required mitigation fees subsequent to final certification
20 of the Project by the CEC as a prerequisite to obtaining a final Permit to Construct from the
21 SCAQMD.

22 10. To ensure that the emission offset proposal being implemented pursuant to
23

24 ³ See CPUC Decision 08-04-011, dated April 11, 2008, In The Matter Of The Application Of Southern California
25 Edison Company (U 338-E) For Approval Of Results Of Fast Track Of Its New Generation Request For Offers
26 And For Cost Recovery, Opinion Granting Application Of Southern California Edison Company For Approval
27 Of Contract With CPV Ocotillo, LLC, at p. 4. As noted in Footnote No. 1 of Decision 08-04-011: "The CPV
28 Ocotillo, LLC has since been renamed CPV Sentinel LLC; however, to avoid confusion and to remain
consistent with the name provided in SCE's application, the project is referred to as CPV Ocotillo in this
decision."

⁴ California Energy Commission Staff Final Staff Assessment Air Quality Addendum, April 15, 2010, page 2.1-39.

1 Section 40440.14 is consistent with the federally-approved state implementation plan (SIP) for
2 the SCAQMD, the SCAQMD Governing Board will consider a proposed revision to the SIP to
3 incorporate the proposal at a hearing on April 30, 2010.

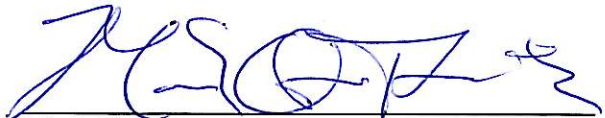
4 11. Subject to the information provided herein, the content of the above-
5 referenced exhibits is true and accurate to the best of my information and belief.

6 12. I hereby offer the above-referenced exhibits into evidence.

7 13. Based on the information and analysis contained in the above-referenced
8 exhibits, it is my expert opinion that the Project satisfies all relevant laws, ordinance, regulations
9 and standards and will not have a significant adverse impact on air quality.

10 Executed on April 21, 2010, at 10:27 A.M.

11 I declare under penalty of perjury of the laws of the State of California that the
12 foregoing is true and correct.

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14 
15 Mark Turner

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Curriculum Vitae

MARK O. TURNER

**Vice President, Development,
Competitive Power Ventures**

55 Second Street, Suite 525, San Francisco, CA 94105

(415) 293-1463

mturner@cpv.com

EMPLOYMENT HISTORY

COMPETITIVE POWER VENTURES

Vice President, Development

San Francisco, CA August 2006 – Present

Project Manager leading the development, permitting and commercialization of the CPV Sentinel Power Project, an 800MW simple cycle power project located in Riverside County, CA.

GLOBAL ENERGY DECISIONS (formerly HENWOOD ENERGY SERVICES, now VENTYX)

Project Manager, North East Region

Sacramento, CA April 2004 – August 2006

Lead Global Energy's advisory services in the Northeast region of North America. Responsible for conducting a wide range of strategic market analyses with a focus on the WECC, PJM, ISO-NE, NY-ISO and Ontario, including price and market forecasting, project and risk assessment and market consulting valuation in support of acquisition, development and financing efforts.

INDEPENDENT CONSULTING

Real Energy, Sacramento, CA October 2003 – April 2004

Financial analysis and origination support services to Real Energy's distributed generation efforts in Northern and Southern California.

Roseville Electric, Roseville, CA May 2003 – October 2003

Managed Roseville Electric's efforts to identify and purchase Emissions Reduction Credit's for its Roseville Energy Center in Northern California.

Henwood Energy Services, Sacramento, CA April 2003 – October 2003

Developed Henwood's first model for post-processing LMP data in order to estimate transmission congestion costs and help clients manage transmission risk through the acquisition of Financial Transmission Rights (FTRs).

INTERGEN NORTH AMERICA

Director, Development

Sacramento, CA (Western Region) 2001-2002

Lead developer on the 90 MW Larkspur and 135 MW Indigo electric generation facilities in southern California.

Manager, Development

Houston, TX (US Headquarters) 1999-2001

Assistant project manager of the Magnolia Energy Facility, a 900 MW combined cycle facility in northwest Mississippi.

INTERGEN ENERGY – LATIN AMERICA REGIONAL OFFICE

Sr. Associate - Development

Miami, FL 1996-1999

Power marketing & origination, market analysis, project financial analysis, regulatory liaison with federal energy commission (CFE) staff, and transmission/gas interconnection issues associated with the TermoNoreste development effort in Monterrey, Mexico. Lead commercial aspects of negotiations with the industrial host for the TermoNoreste cogeneration facility development effort.

UNITED STATES SENATE COMMITTEE ON ENERGY AND WATER

Fellow/Regulatory Analyst, Washington DC 1995-1996

Analyst for the appropriations committee efforts under Senators Hatfield and Dominici on projects funded under the Energy & Water Appropriations Sub-Committee.

NATURAL RESOURCES DEFENSE COUNCIL

Energy & Environment Intern, New York, NY 1993-1995

Research analysis for the Energy & Environment Group with energy sector environmental policy research and tax policy research.

UNITED STATES PEACE CORPS

Honduras, Central America 1990-1992

Developed four potable water supply systems in rural Honduran villages, including water system design, planning, construction management, training community to maintain the system, and developing sustainable watershed management practices.

EDUCATION & TRAINING

COLUMBIA UNIVERSITY

Masters, School of International and Public Affairs, Energy & Environmental Policy Studies

Honors: Full tuition merit scholarship - Jacob Javits U.S. Senate Fellowship

BA, Government/Economics, California State University, Sacramento

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4 Attorneys for Applicant

5 State of California
6 Energy Resources
7 Conservation and Development Commission
8

9 IN THE MATTER OF:
10 APPLICATION FOR CERTIFICATION
FOR THE CPV SENTINEL ENERGY
11 PROJECT BY CPV SENTINEL, L.L.C.

Docket No. 07-AFC-03
DECLARATION OF JOHN LAGUE
REGARDING AIR QUALITY

12
13 I, John Lague, declare as follows:

14 1. I am employed by URS as a Senior Air Quality Consultant and am duly
15 authorized to make this declaration for the CPV Sentinel Energy Project (07-AFC-03) (Project).
16 Except where stated on information and belief, the facts set forth herein are true of my own
17 personal knowledge and the opinions set forth herein are true and correct articulations of my
18 opinions. If called as a witness, I could and would testify competently to them.

19 2. I earned an M.S. in Meteorology from the Massachusetts Institute of
20 Technology in 1973 and a B.S. in Physical Sciences from the University of California, Davis, in
21 1970. I have worked continuously in the air quality consulting field since 1971 and I have
22 managed the preparation of air quality analyses for numerous facilities. A copy of my current
23 curriculum vitae will be filed concurrently with this declaration.

24 3. I was a principal author, supervised the preparation of, or reviewed
25 Section 7.1, Air Quality (Exhibit No. 7); Appendix I-1, Seasonal Windroses (Exhibit No. 33);
26 Appendix I-2, Construction Emissions (Exhibit No. 34); Appendix I-3, Operating Emissions
27 (Exhibit No. 35); Appendix I-4, Greenhouse Gas Emissions (Exhibit No. 36); Appendix I-5,
28 Modeling Protocol (Exhibit No. 37); Appendix I-6, VISCREEN and PLUVUE 2 Modeling

1 Inputs (Exhibit No. 38); and Appendix I-7, BACT Analysis (Exhibit No. 39); of the Application
2 for Certification (“AFC”) in this docket. Section 7.1 and Appendix I describe the Project’s
3 potential air quality impacts and South Coast Air Quality Management District (SCAQMD)
4 permitting requirements.

5 4. I supervised the preparation of, and/or reviewed, and am familiar with the
6 Application for the Permit To Construct/Permit to Operate (Exhibit No. 62), CD copy of the Air
7 Dispersion Model Input and Output in response to Data Request 3 (Exhibit No. 63), and
8 Construction Emissions table (Exhibit No. 92).

9 5. I have reviewed and am familiar with the SCAQMD’s Preliminary
10 Determination of Compliance (PDOC) (Exhibit No. 140), Final Determination of Compliance
11 (FDOC) (Exhibit No. 87), and Addendum to the Determination of Compliance (issued March 2,
12 2010) (Exhibit No. 141) for the Project.

13 6. On November 19, 2008, the Applicant submitted to the Energy
14 Commission certain Project design refinements that would improve the overall performance of
15 the Project. Since the refinements would cause very minor changes to the Project’s emissions
16 sources, the Applicant also filed an Amended Application for the Permit To Construct/Permit to
17 Operate with the SCAQMD on October 15, 2009, which was also docketed with the Energy
18 Commission on October 30, 2009. I supervised the preparation of, and/or reviewed, and am
19 familiar with the Amended Application for the Permit To Construct/Permit to Operate (Exhibit
20 No. 138) and air dispersion modeling data related to the Amended Application for the Permit To
21 Construct/Permit to Operate (Exhibit No. 139).

22 7. While processing the Amended Application for the Permit To
23 Construct/Permit to Operate with the SCAQMD, the following very minor revisions to the
24 Project were identified. The carbon monoxide (CO) best available control technology (BACT)
25 limit was reduced from 6 parts per million (ppm) to 4 ppm based on recent determinations by the
26 SCAQMD. The Project’s firewater pump engine was changed to a Tier 3 engine because the
27 SCAQMD informed the Applicant that certified Tier 3 engines are now available. Lastly, the
28 vendor-guaranteed emission rate for PM10 was reduced from 6 to 5 lbs/hour.

1 8. At the request of the SCAQMD, as part of the Amended Application for
2 the Permit To Construct/Permit to Operate, the Applicant performed dispersion modeling to
3 evaluate the minor revisions to the Project, which included: (1) the reduced PM10 emissions of
4 5 lbs/hr; (2) the firewater pump Tier 3 engine; and (3) slight changes to physical stack
5 parameters of select sources. The more stringent CO BACT of 4 ppm was not included in the
6 revised dispersion modeling because this change occurred too late to be incorporated; thus, the
7 modeling is overly conservative for CO emissions. The modeling verified that the air quality
8 effects resulting from the changes in emissions related to the minor Project revisions would be
9 negligible and no new significant impacts would result. The model input and output files were
10 filed with the Energy Commission on December 11, 2009 (Exhibit No. 139).

11 9. Subject to the information provided herein, the content of the above-
12 referenced exhibits is true and accurate to the best of my information and belief.

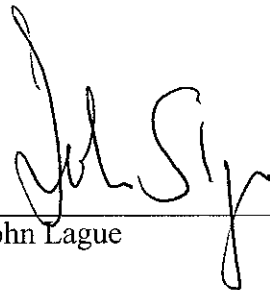
13 10. I hereby offer the above-referenced exhibits into evidence.

14 11. Based on the information and analysis contained in the above-referenced
15 exhibits, it is my expert opinion that the Project will not have a significant adverse impact on air
16 quality and will comply with all applicable laws, ordinances, regulations and standards.

17 Executed on April 21, 2010, at San Diego, California.

18 I declare under penalty of perjury of the laws of the State of California that the
19 foregoing is true and correct.

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John Lague

AREAS OF EXPERTISE

- Air Quality Permitting/Compliance
- Greenhouse Gas Studies
- Applied Research and Policy Development
- International Consulting
- Meteorological Analysis
- Air Quality Impact and Health Risk Assessment
- Air Quality and Meteorological Measurements

EDUCATION

M.S., Meteorology,
Massachusetts Institute of
Technology, 1973

B.S. Physical Sciences,
University of California at
Davis, 1970

PROFESSIONAL HISTORY

URS, Senior Air Quality
Consultant, 1996 – present

SECOR International,
Senior Air Quality
Consultant,
1995 – 1996

Ogden Environmental and
Energy Services, Senior
Air Quality Consultant,
1985 – 1995

Environmental Research &
Technology, Air Quality
Consultant, 1971 – 1985

REPRESENTATIVE EXPERIENCE

Mr. Lague has worked continuously in the air quality consulting field since 1971. Located in the URS San Diego office, he is responsible for technical oversight of the firm's air quality work and management of major projects. His technical specialties include permitting and compliance support for government and industrial facilities, air quality impact assessments, air toxics evaluations, greenhouse gas emissions studies and air quality and meteorological monitoring, and applied research programs.

Throughout his career, Mr. Lague has been primarily involved in permitting and compliance work for industrial and public facilities in the US and abroad. The principal elements of most permitting and compliance efforts have typically included: development of permitting strategies consistent with client objectives and regulatory constraints, negotiations with responsible regulatory agencies, participation in project design to identify opportunities to minimize pollutant emissions, preparation of permit applications and supporting technical materials, operation of pre-construction and post-permit monitoring and compliance programs, and presentation of expert witness testimony at hearings, workshops, legal proceedings and public information meetings. Since 1997, he has completed numerous projects to quantify greenhouse gas emissions from power generation and petroleum industry facilities. Examples of experience related to power plant permitting and greenhouse gas quantification and/or verification are presented below

Power Plant Siting, Licensing and Permitting Projects

- For EIF, prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the **San Joaquin Valley Air Pollution Control District** for the Panoche Energy Center, a new 400 MW peaking generating station near Firebaugh, California. The plant is currently
- For Energy Northwest, prepared a PSD permit application to the Washington Energy Facility Site Evaluation Council for the Pacific Mountain Energy Center (PMEC), an **Integrated Gasification Combined Cycle (IGCC)** development, at the Port of Kalama, WA. The PMEC would gasify petcoke and/or coal to create synthesis gas to provide fuel for two combined cycle combustion turbine units with a net output of about 600 MW. Tasks conducted by URS in a cooperative permitting effort with another consulting firm included emissions inventory preparation, an extensive Best Available Control Technology demonstration and dispersion modeling to evaluate the project's potential impacts relative to PSD

significance thresholds, increments and the National Ambient Air Quality Standards, as well as a health risk assessment for the project's emission of toxic air pollutants.

- For EIF, prepared the Air Quality and Public Health analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the **San Joaquin Valley Air Pollution Control District** for the Bullard Energy Center, a new 200 MW peaking generating station in Fresno, California.
- For Starwood Energy, prepared the Air Quality, Public Health and Hazardous Materials Handling analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the air quality permit application to the **San Joaquin Valley Air Pollution Control District** for the Starwood Midway Project, a new 120 MW peaking generating station near Firebaugh, California.
- For Spinnaker Energy, conducted senior review and contributed to permit strategy development for a proposed 106 MW hybrid power generation (solar and biomass combustion) near Coalinga, California. The air quality permit for the project was submitted to the **San Joaquin Valley Air Pollution Control District**.
- For AES, managed development of a permitting plan to evaluate possible additions and repowering projects at the Huntington Beach Generating Station. Topics addressed in the plan included a listing of key permitting issues and applicable permits for different project options, assessment of emissions offset requirements for each project design and an assessment of the implications of each option with respect to California Energy Commission licensing requirements,.
- For Reliant Energy prepared Air Quality and Public Health sections analyses in support of an Application for Certification to the California Energy Commission (CEC) and prepared the Permit to Construct/Permit to Operate application to the **South Coast Air Quality Management District** for the San Gabriel Generating Station, a 650 combined cycle addition to the existing Etiwanda Generating Station in Rancho Cucamonga, California.
- For the City of Anaheim and the Southern California Public Power Authority, prepared the Air Quality and Public Health Sections for an Application for Certification to the California Energy Commission and Permit to Construct/Permit to Operate application to **South Coast Air Quality Management District** in support of a 200 MW peaking power plant (4 x GE LM6000 CTG) in Anaheim California.

- For the City of Colton and the Southern California Public Power Authority, currently providing air quality technical studies in support of a Mitigated Negative Declaration and preparation of a Permit to Construct/Permit to Operate application to **South Coast Air Quality Management District** for an expansion of the Agua Mansa Power Plant. Project would entail conversion of an existing simple cycle GE LM6000 CGT to combined cycle with a steam turbine to boost power production.
- On behalf of Competitive Power Ventures, currently managing preparation of the Air Quality and Public Health sections for an Applications for Certification to the California Energy Commission (CEC) and Permit to Construct/Permit to Operate application to **South Coast Air Quality Management District** in support of the Sentinel Energy Project, an 815 MW (8 x GE LMS100 CTG) peaker project near Palm Springs California
- Prepared Air Quality and Public Health Sections for two Applications for Certification to the California Energy Commission (CEC) and managed air quality permitting activities (**South Coast Air Quality Management District**) associated with two new generating facilities proposed by InterGen North America near Palm Springs, California. These projects included a 135 MW peaking plant based on simple cycle General Electric LM6000 turbines and a second facility comprising three GE Frame 7AF turbines, first in simple cycle mode to provide 456 MW of short-term power, and later in combined cycle mode with duct burning to provide nearly 900 MW.
- For CalEnergy, provided oversight for staff conducting air toxics health risk assessment for the license application to the California Energy Commission for the proposed Salton Sea Unit 6 Geothermal Project in Imperial County, California.
- Managed preparation of Air Quality and Public Health sections of an Applications for Certification to the California Energy Commission (CEC) and Authority to Construct/Permit to Operate application to **San Luis Obispo Air Pollution Control District** in for a the Carrizo Energy Solar Farm
- For the Imperial Irrigation District, prepared Air Quality, Public Health and Hazardous Materials Management analyses in support of a Small Power Plant Exemption to the California Energy Commission (CEC) and prepared the air quality permit application to the **Imperial County Air Pollution Control District** for a new 90 MW peaking generating station in Niland, California.
- For the Imperial Irrigation District, prepared Air Quality, Public Health and Hazardous Materials Management analyses in support of a Small Power Plant Exemption to the California

Energy Commission (CEC) and prepared the air quality permit application to the **Imperial County Air Pollution Control District** for the Unit 3 Repower project at the El Centro Generating Station in El Centro, California.

- Managed preparation of the Hazardous Materials Handling section of the Application for Certification for the Colusa Generating Station, a 600 MW combined cycle gas turbine power plant proposed by Competitive Power Ventures in Colusa County in Northern California.
- Managed air quality permitting for the proposed Meadow Valley Project, a 900 MW PG&E Generating Company combined cycle power generation project north of Las Vegas, Nevada
- Conducted regulatory reconnaissance analyses to determine air quality constraints that would affect permitting of new power plants at several sites in Nevada and California that were being considered for potential development by Mirant.
- Managed preparation of an application to the Hawaii Department of Health, Clean Air Branch for Major Modification to a Covered Source for an energy project to add one new cogeneration unit and two new steam boilers to the Chevron Hawaii Refinery on Oahu.
- Served as lead air quality consultant to obtain an Initial Covered Source Permit from the Hawaii Department of Health, Clean Air Branch for a proposed new eucalyptus veneer mill and cogeneration facility on the Island of Hawaii, including two new wood fired boilers to provide electricity and steam for mill processes and excess electricity for sale to Hawaii Electric Light Company.
- Served as a senior technical consultant for Air Quality and Public Health issues associated with California Energy Commission Licensing for two separate 500 MW combined cycle units to be added to Mirant's Potrero and Contra Costa power plants, and served as the lead consultant for the Hazardous Materials Management aspects of both licensing efforts. Also assisted Mirant in identifying and documenting emissions offsets for these projects and development of air permits with the **Bay Area Air Quality Management District**.
- For AES, managed the Air Quality and Public Health aspects of licensing and permitting (California Energy Commission and **South Coast Air Quality Management District**) for the refurbishment of previously retired Units 3 and 4 of the Huntington Beach Generating Station.

Greenhouse Gas Studies

- Served on a team composed of URS and KPMG technical staff to audit greenhouse gas emissions reporting for Texaco facili-

ties worldwide. As part of this project, personally conducted facility audits for petroleum refineries in Northern California, Washington and Thailand. The resulting data from all facility audits was compiled to create an audit opinion on the accuracy of the reported emission totals corporation-wide. A similar effort was conducted by the same team two years later to verify greenhouse gas emissions for all ChevronTexaco facilities.

- In response to World Bank environmental review requirements, managed the preparation of greenhouse gas emissions inventories for two proposed ExxonMobil development projects in Chad. These included: (1) the large new Doba oilfield and processing center with a 1,050 kilometer crude oil pipeline to an export terminal in Cameroon; and (2) a new pipeline to bring oil from an existing oilfield in Northern Chad to a new refinery in the capital city of N'Djaména for the production of fuels for local consumption. Emissions from all aspects of the subject facilities' operations, including post-project combustion of the resulting products, were included in the carbon dioxide and methane inventories prepared for each project, and a report documenting the methodology and results of the study was submitted as an addendum to the project Environmental Assessment.
- Provided technical support in a project for an American Petroleum Institute (API) project to evaluate the available protocols for developing greenhouse gas emissions (GHG) estimates for facilities in the oil and gas industry. Various inventory development methods used by individual companies and by international government agencies were examined and compared for each source type, and recommendations regarding the most technically defensible emission factors and assumptions were developed. The resulting information was used to prepare emissions data for various model facilities in the exploration and production, refining and transportation sectors. The ultimate product of the study was an API Compendium which provides detailed guidance for oil and gas industry facility operators preparing GHG inventories.
- For ChevronTexaco, conducted a study to evaluate a combined cycle gas turbine power project in Thailand as a candidate Clean Development Mechanism pursuant to Article 12 of the 1997 Kyoto Protocol. Work involved an assessment of the project's attributes versus the current thinking regarding CDM certification criteria and estimation of alternate baseline emissions scenarios to determine the project's potential for emission credit generation. The latter task required travel to Thailand and interviews with government agencies involved in overseeing the electrical generation sector in that country, as well as Thai agencies responsible for the country's climate change programs. An emissions baseline was determined by developing an estimate of the emissions (tonnes CO₂ equivalent per MW-hr) for other new energy projects in Thailand during the same general

time period. The result was compared with the emissions from the new combined cycle facility to determine potential emission reduction credits that could be earned by the project.

- Developed greenhouse gas and pollutant emissions data for the West Africa Gas Pipeline (WAGP) project proposed by Chevron Overseas Petroleum, Inc. The project would involve processing and pipeline transport of natural gas recovered at crude oil production sites offshore Nigeria. The gas is currently flared due a lack of local markets and infrastructure, but the proposed project would result in its use by existing and planned power plants and industrial facilities in Togo, Benin and Ghana. The differences between future regional emissions with and without the WAGP project were calculated and used as a portion of the argument for certifying the proposed project as a Clean Development Mechanism project, as defined by the Kyoto Protocol of 1997.
- Developed annual emissions inventories of greenhouse gases (GHG) for Unocal facilities worldwide. Questionnaires to elicit the required information from individual business units (BUs) were developed and refined for ease of use, based on feedback from selected BUs. Next each operation completed the questionnaire, including activity data for each facility to facilitate calculation of GHG emissions by URS using the API Compendium methodology. The data for specific BUs were compiled to create a Unocal-wide inventory for 1999. The process was repeated to prepare annual inventories for 2000, 2001 and 202, with refinements based on the experience gained in the initial years.

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

In the Matter of:) Docket No. 07-AFC-3
)
Application for Certification,) **PROOF OF SERVICE**
for the CPV SENTINEL ENERGY PROJECT)
) (March 24, 2010)
)
_____)

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CPV SENTINEL ENERGY PROJECT
CEC Docket No. 07-AFC-3

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DECLARATION OF SERVICE

I, Paul Kihm, declare that on April 21, 2010, I served and filed copies of the attached:

- 1. Declaration of Mark Turner Regarding Air Quality;**
- 2. Declaration of John Lague Regarding Air Quality; and**
- 3. Applicant's Tentative Exhibit and Declaration List (Air Quality Only).**

to all parties identified on the Proof of Service List above in the following manner:

California Energy Commission Docket Unit

- Transmission by depositing one original paper copy with FedEx overnight mail delivery service at Costa Mesa, California, with delivery fees thereon fully prepaid and addressed to the following:

CALIFORNIA ENERGY COMMISSION


Attn: DOCKET NO. 07-AFC-3
1516 Ninth Street, MS-4
Sacramento, California 95814-5512
docket@energy.state.ca.us

For Service to All Other Parties

- Transmission via electronic mail to all email addresses on the Proof of Service list; and
- by depositing one paper copy with the United States Postal Service via first-class mail at Costa Mesa, California, with postage fees thereon fully prepaid and addressed as provided on the Proof of Service list to those addresses **NOT** marked "email preferred."

I further declare that transmission via U.S. Mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 21, 2010, at Costa Mesa, California.



Paul Kihm