

LATHAM & WATKINS LLP

650 Town Center Drive, 20th Floor
Costa Mesa, California 92626-1925
Tel: +1.714.540.1235 Fax: +1.714.755.8290
www.lw.com

FIRM / AFFILIATE OFFICES

Abu Dhabi	Munich
Barcelona	New Jersey
Brussels	New York
Chicago	Orange County
Doha	Paris
Dubai	Rome
Frankfurt	San Diego
Hamburg	San Francisco
Hong Kong	Shanghai
London	Silicon Valley
Los Angeles	Singapore
Madrid	Tokyo
Milan	Washington, D.C.
Moscow	

June 2, 2009

VIA FEDEX

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-9
1516 Ninth Street, MS-4
Sacramento, California 95814-5512

File No. 039610-0003

DOCKET
08-AFC-9

DATE JUN 02 2009
RECD. JUN 02 2009

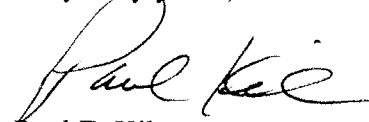
Re: City of Palmdale Hybrid Power Plant Project: Docket No. 08-AFC-9

Dear Sir/Madam:

Pursuant to California Code of Regulations, title 20, sections 1209, 1209.5, and 1210, enclosed herewith for filing please find a copy of Applicant's Revised Responses to CEC Data Requests 152-153 regarding Visual Resources.

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

Very truly yours,


Paul E. Kihm
Senior Paralegal

Enclosure

cc: 08-AFC-9 Proof of Service List (w/encl. via e-mail and U.S. Mail)
Michael J. Carroll, Esq. (w/encl.)

PALMDALE HYBRID POWER PROJECT (08-AFC-09) CEC STAFF SET 2 DATA REQUESTS 152 - 153	
Technical Area: Visual Resources	Response Date: June 2, 2009

Data Request 152:

Please summarize for the cooling tower the conditions that affect vapor plume formation including cooling tower heat rejection, exhaust temperature, and exhaust mass flow rate. Please provide values to complete the table, and additional data as necessary for staff to be able to determine how the heat rejection load varies with ambient conditions and also determine at what ambient conditions cooling tower cells may be shut down.

Additional combinations of temperature and relative humidity or curves showing heat rejection vs. ambient condition and solar condition, if provided by the applicant, will be used to more accurately represent the cooling tower exhaust conditions. Please include appropriate design safety margins for the heat rejection, exhaust flow rate and exhaust temperature in consideration that the air flow per heat rejection ratio is often used as Condition of Certification confirmation of design limit.

Revised Response:

A table summarizing the conditions that will affect the cooling tower heat rejection and potential for vapor plume formation is provided below. This table is a revision to the previously provided response, as the previous table was based on a different cooling tower design.

The Applicant assumes a certain amount of tower exhaust recirculation to the tower inlet. This recirculation assumption results in the difference between the Ambient Wet Bulb and the Cooling Tower Inlet Plane Wet Bulb. For operational safety margin, the exhaust temperature at 105% heat duty or 95% air flow use is also provided.

Data Request 153:

Please provide the cooling tower manufacturer and model number information and a fogging frequency curve from the cooling tower vendor, if available, that corresponds to the altitude of the project site.

Revised Response:

The cooling tower design is based on an SPX/Marley F4910-5.3-10B cooling tower. A revised Fogging Frequency Curve is provided as Attachment DR-153 at the end of this section.

**PALMDALE HYBRID POWER PROJECT (08-AFC-09)
CEC STAFF SET 2 DATA REQUESTS 152 - 153**

Technical Area: Visual Resources

Response Date: June 2, 2009

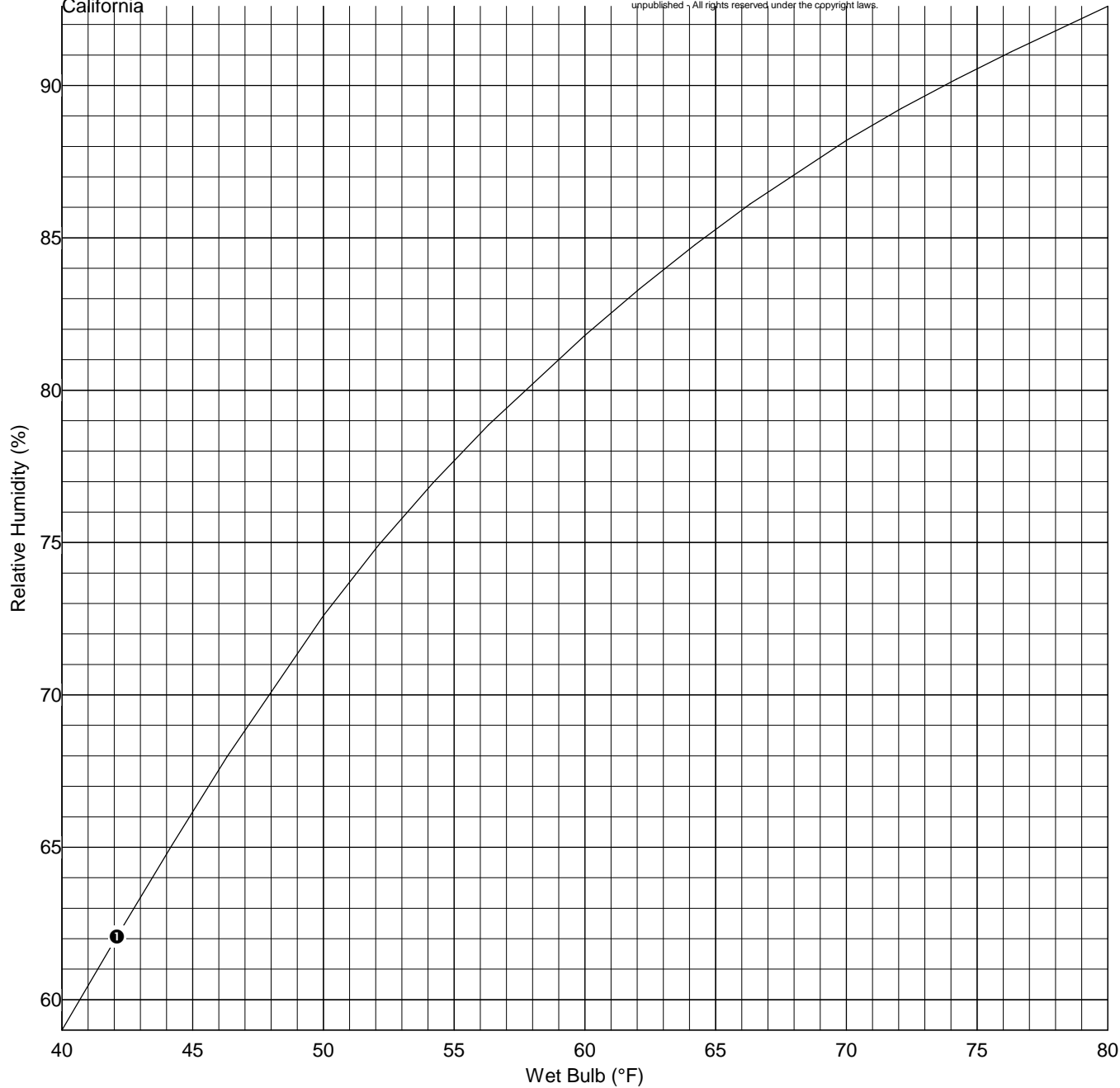
Parameter	Cooling Tower Exhaust					
Number of Cells	10 cells (2 cells x 5 cells back to back)					
Cell Height*	62.3 feet					
Exhaust Stack Diameter*	28 feet					
Tower Housing Length	318.5 feet					
Tower Housing Width	108.6 feet					
Ambient Temperature*	23°F	64°F		98°F		
Ambient Relative Humidity	92%	40%		17%		
Ambient Wet Bulb	22.40	51.00		65.90		
Tower Inlet Plane Wet Bulb	22.63	52.85		67.70		
Solar On/Off	Solar On					
Case	PB-11	PB-6	PB-13	PB-8	PB-14	PB-9
Duct Firing	Yes	No	Yes	No	Yes	No
Number of Cells in Operation	10	10	10	10	10	10
Heat Rejection (MW/hr)	495	457	488	449	485	445
Exhaust Temperature (°F)	71.9	69.3	85.8	83.8	93.6	92.0
Exhaust Temperature (°F) at 105% heat duty or 95% Exhaust Flow	73.6	70.9	87.0	85.0	94.6	93.0
Exhaust Flow Rate (Kg/Sec)	7870	7900	7720	7740	7630	7640
Solar On/Off	Solar Off					
Case	PB-16	PB-1	PB-18	PB-3	PB-19	PB-4
Duct Firing	Yes	No	Yes	No	Yes	No
Number of Cells in Operation	10	8	10	10	10	10
Heat Rejection (MW/hr)	465	333	463	326	468.2	322
Exhaust Temperature (°F)	69.9	67.2	84.5	77.0	93.0	86.5
Exhaust Temperature (°F) at 105% heat duty or 95% Exhaust Flow	70.2	68.8	85.7	78.0	94.0	87.3
Exhaust Flow Rate (Kg/sec)	7890	6184	7730	7790	7630	7680

Heat rejection values provided, neglecting water makeup and blowdown.

Visual Resources
Attachment DR-153
Fogging Frequency Curve

Fogging Frequency Estimate Inland Palmdale California

CONFIDENTIAL: The Contents of this document are confidential and constitute the exclusive property of SPX Cooling Technologies. This document and its contents may not be made public in any manner, distributed or loaned to others, or reproduced or copied either in whole or in part without the prior written consent of SPX Cooling Technologies.
© 2009 As of the date(s) in the title block SPX Cooling Technologies unpublished - All rights reserved under the copyright laws.



SPX Cooling Technologies TRACS Version 18-SEP-08

Model F488-5.3-10
Number of Cells 10
Motor Output 200HP
Motor RPM 1800
Fan 336HP7-7
Fan RPM 146
(Full Speed)

Design Conditions:
Flow Rate 120200GPM
Hot Water 97.20°F
Cold Water 78.90°F
Wet-Bulb 71.09°F

Curve Conditions:
Fan Pitch Constant
Dry Dampers Closed
Flow Rate 120200GPM
(100% Design Flow)

Tangency 100.0%

FOGGING FREQUENCY CURVE: The curve shown to the left is referred to as a 'Fogging Frequency Curve'. The Fogging Frequency Curve separates entering cooling tower conditions that produce fog at the discharge (Top-Left region of chart) from those that do not produce fog (Bottom-Right region of chart)

● 18.3 °F Range
X Design Point

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

In the Matter of:) Docket No. 08-AFC-9
)
Application for Certification,) PROOF OF SERVICE
for the CITY OF PALMDALE HYBRID)
POWER PLANT PROJECT) (Revised April 30, 2009)
)
)

APPLICANT

Thomas M. Barnett
Executive Vice President
Inland Energy, Inc.
3501 Jamboree Road
South Tower, Suite 606
Newport Beach, CA 92660
tbarnett@inlandenergy.com

Antonio D. Penna Jr.
Vice President
Inland Energy
4390 Civic Drive
Victorville, CA 92392
tonypenna@inlandenergy.com

Laurie Lile
Assistant City Manager
City of Palmdale
38300 North Sierra Highway, Suite A
Palmdale, CA 93550
llile@cityofpalmdale.org

APPLICANT'S CONSULTANTS

Sara Head
Vice President
ENSR Corporation
1220 Avenida Acaso
Camarillo, CA 93012
SHead@ensr.aecom.com

PALMDALE HYBRID POWER PROJECT

CEC Docket No. 08-AFC-09

INTERESTED AGENCIES

Michael R. Plaziak

Manager

Lahontan Regional Water Quality Control Board

14440 Civic Drive, Suite 200

Victorville, CA 92392-2306

mplaziak@waterboards.ca.gov

Rick Buckingham

State Water Project

Power & Risk Office

3310 El Camino Avenue, LL-90

Sacramento, CA 95821

E-mail preferred

rbucking@water.ca.gov

Manuel Alvarez

Robert J. Tucker

SoCal Edison

1201 K Street

Sacramento, CA 95814

Manuel.Alvarez@sce.com

Robert.Tucker@sce.com

California ISO

P.O. Box 639014

Folsom, CA 95763-9014

e-recipient@caiso.com

ENERGY COMMISSION

Jeffrey D. Byron

Commissioner and Presiding Member

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street

Sacramento, California 95814-5512

jbyron@energy.state.ca.us

Arthur H. Rosenfeld

Commissioner and Associate Member

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street

Sacramento, California 95814-5512

pflint@energy.state.ca.us

PALMDALE HYBRID POWER PROJECT
CEC Docket No. 08-AFC-09

Paul Kramer

Hearing Officer
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814-5512
pkramer@energy.state.ca.us

Felicia Miller

Project Manager
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814-5512
fmiller@energy.state.ca.us

Caryn Holmes

Staff Counsel
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814-5512
CHolmes@energy.state.ca.us

Elena Miller

Public Adviser
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814-5512
Publicadviser@energy.state.ca.us

PALMDALE HYBRID POWER PROJECT
CEC Docket No. 08-AFC-09

DECLARATION OF SERVICE

I, Paul Kihm, declare that on June 2, 2009, I served and filed copies of the attached:

**APPLICANT'S REVISED RESPONSES TO CEC DATA REQUESTS 152-153
REGARDING VISUAL RESOURCES**

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

California Energy Commission Docket Unit

- ☒ Transmission via electronic mail and 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. 08-AFC-09
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 electronic mail and 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 June 2, 2009, at Costa Mesa, California.



Paul Kihm