

>>> "Andrea Grenier" <[Andrea@agrenier.com](mailto:Andrea@agrenier.com)> 8/19/2009 2:46 PM >>>  
Rod and Will: please see information below updating original responses to DR71-74.

Andrea Grenier

Grenier & Associates, Inc.

1420 E. Roseville Parkway, Suite 140-377

Roseville, CA 95661

Office: (916) 780-1171

Cell: (916) 847-0918

Email: [andrea@agrenier.com](mailto:andrea@agrenier.com)

---

DR71) A cooling tower has not been purchased for the project at this time. However, a theoretical model has been created by the cooling tower manufacturer (SPX) who has provided the revised information in Table DR71-1. (See the attached)

DR72) No change in response

DR73) Cooling Tower fogging frequency curve (we provided this last week in a separate email)

DR74) Two speed fan motors will be provided at LEC. No Variable Frequency Drive Motor's will be employed.

-----Original Message-----

From: Rod Jones [<mailto:RJones@energy.state.ca.us>]

Sent: Friday, August 14, 2009 7:59 AM

To: [Andrea@agrenier.com](mailto:Andrea@agrenier.com)

Subject: RE: LEC Plume Frequency Chart (08-AFC-10)

Andrea - Today is a furlough day. But I thought that you should know that Will Walters feels that he needs to have his initial data requests revisited in order to complete his section of the PSA. I thought that at least you could get started on responding to his inquiry and we could touch base on Monday when I return to the office.

Here's his e-mail address: <[WWalters@aspeneq.com](mailto:WWalters@aspeneq.com)>

Feel free to contact him if you need further clarification regarding his statement. Thanks, Rod

---

**DOCKET**

**08-AFC-10**

DATE \_\_\_\_\_

RECD. 8/24/2009

From Will Walters regarding the latest Plume Frequency Chart sent to staff on 8/12/09:

Apparently, I'll have to revise the analysis once again... But, Andrea's note below is incomplete, the difference in the curves is that the new CHART provides RH down to 50 percent vs. 54 percent for the old CHART, but more importantly the new fogging CURVE is below the old fogging curve (i.e more plumes will form)...So, using the pop-culture vernacular...is this their final answer?

I need the applicant to provide a revised and complete DR Table DR71-1 response and respond again to DR 74. I am stuck in neutral until I get the DR 71 revised heat balance and flow data.

---

Andrea Grenier:

Rod: I spoke with our engineers and it turns out that the vendor provided the incorrect frequency curve. Staff was correct in that the original curve that we submitted was for an abated tower. I am attaching the correct one for the unabated tower so that you can provide it to Will and Marie right away. Sarah can also docket a hard copy if you feel that is appropriate or necessary. The difference in the original curve we provided and this revised one is the span of relative humidity.

Rod Jones

Project Manager

Siting, Transmission and Environmental Protection Division

California Energy Commission

1516 Ninth Street MS-15

Sacramento, CA

916/654-5191 (DL)

916-654-3882 FAX

[RJones@energy.state.ca.us](mailto:RJones@energy.state.ca.us)

TABLE DR71-1

Cooling Tower Parameters

Parameter Cooling Tower Exhausts

Number of Cells

7 cells (1 by 7)

Cell Height

13.9 Meters (45.8 feet)

Cell Diameter

4.3 meters (14 feet)

Tower Housing Length

102.6 meters (336.7 feet)

Tower Housing Width

13 meters (42.7 feet)

Ambient Temperature

35°F

65°F

94.0°F

Ambient Relative Humidity

74.0%

67.0%

27.5%

Duct Firing

n/a

n/a

n/a

Heat Load MMBtu/hr <sup>(1)</sup>

651.7

643.3

640.3

Number of Cells in Operation

7

7

7

Heat Rejection (MMBTU/hr) <sup>(2)</sup>

738.3

724.5

714.15

Exhaust Temperature (°F) <sup>(3)</sup>

67.91

82.39

88.95

Exhaust Flow Rate (lb/hr)

5182652

5008656

4904043

Water Temperature In (°F)

52.43

68.04

75.4

Water Temperature Out (°F)

73.83

89.04

96.1

Water Flow (Gal/min)

69,000

69,000

69,000

(1) Heat load associated with the steam cycle

(2) Heat rejection for the entire plant (includes BOP cooling loads)

(3) Wet Bulb and Dry Bulb are equal