

**Robert Worl - RE: Some critical questions regard the cooling towers...Response**

**From:** Nora Monette <nmonette@davidjpowers.com>  
**To:** Robert Worl <Rworl@energy.ca.gov>  
**Date:** 2/1/2012 12:05 PM  
**Subject:** RE: Some critical questions regard the cooling towers...Response  
**CC:** Richard Waddle <rwaddle@dft.com>, "Schwebs, Monica"  
 <monica.schwebs@bingham.com>

<b>DOCKET</b>	
11-SPPE-1	
<b>DATE</b>	<b>FEB 01 2012</b>
<b>RECD.</b>	<b>FEB 09 2012</b>

Bob,

The 8-celled cooling tower is part of the building cooling system for the computer server rooms. Chilled water from the cooling towers is supplied to the computer server rooms at 46 degrees Fahrenheit (F) and is returned to the cooling towers at 58 degrees F.

The cooling tower units will be equipped with variable speed fans. Variable speed fan operation can be adjusted to limit the formation of ground hugging plumes, if necessary. This can be done by increasing the fan speed which would move a plume upward.

Other factors that also influence possible plumes are obstructions within the vicinity of a cooling tower. As shown in, Photo 9 at p. 35 and Figure 4-1 at p. 36 in the Application for Small Power Plant Exemption, the proposed cooling tower would be located on a pad north of the existing cooling tower and adjacent to the data center building. A tall chilled water tank would border the cooling tower to the north and the area will be bordered by a 14 foot fence with a vinyl viewscreen. The cooling tower, at the rear of the building, next to a chilled water tank and fence, is not located in proximity to a heavily traveled roadway.

In general, plumes from a cooling tower are most likely to be visible under lower temperature, high relative humidity conditions. In the Santa Clara area these conditions are most likely to occur during the late fall or winter months. As noted in a previous email, to date there have been no complaints of plumes since the Phase 1 portion of the data center initiated operations in September 2011.

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**From:** Robert Worl [mailto:Rworl@energy.ca.gov]  
**Sent:** Tuesday, January 31, 2012 10:21 AM  
**To:** Nora Monette  
**Subject:** Some critical questions regard the cooling towers...

When we toured the facility after the meeting questions regarding the cooling towers and ground hugging plumes were asked. I would like to have some

confirmation, perhaps just an email, from Rick Waddle or Ted Hellewell regarding plume potential.

We need a statement that explains why plume potential is low from these cooling towers;

variables that reduce the risk of visible and ground-hugging plume could be:

--variable speed fans in the cooling towers

--ambient air temperature

--hot fluid from which temp is rejected--what is the approx. temp?

--days a plume is most likely--

--why plume formation is less likely to occur with these towers?

--are there any plume abatement mods to these towers that would make plumes less likely?

Any information would be helpful in regards to limitations to plume formation from the building cooling towers.

Thanks !

bobw