

**PALOMAR ENERGY PROJECT (01-AFC-24)  
CEC STAFF DATA REQUEST NUMBER 114**

**Technical Area: Visual Resources**

**Response Date: April 8, 2002**

**REQUEST:**

Please indicate any relationship between the use of duct burners and/or power augmentation with ambient conditions (i.e., specify the temperature/relative humidity conditions when either or both are not expected to be in operation), and any other operating limitations of the duct burners or power augmentation that can be stipulated to by the Applicant.

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**RESPONSE:**

The purpose of duct firing is to augment steam production to allow additional generation capacity during peak load conditions. The design peak load demand for the Palomar Energy Project is anticipated to occur almost exclusively during the summer and fall when demand for electricity is the highest. During these periods of peak demand, ambient temperatures are high and relative humidities are low. Consequently, the potential for visible plume formation is low during typical periods when duct firing is anticipated. This is consistent with CEC guidance when performing a visible plume analysis using CSVP to look at winter months only.

The CSVP modeling performed indicated that the potential for visible plume formation from an HRSG with duct burning is less than 7% of the daytime winter, non-precipitation hours. Thus, on the relatively infrequent condition of duct firing during the winter, the potential for visible plume formation will be even less than 7% of the hours. The reduction in frequency occurs because duct burning will be infrequent in the winter while the CSVP modeling assumed continuous duct burner usage all winter.