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June 24, 2003

Mr. Chuck Najarian
Program Manager, Energy Facility Compliance
Mr. Steve Munro
Compliance Project Manager
Metcalf Energy Center (99-AFC-3)
California Energy Commission
1516 Ninth Street
Sacramento, California 95814

Re: Compliance Filing Made Under Protest: Revised Visible Plume Mitigation Plan

Dear Mr. Najarian and Munro:

The Metcalf Energy Center, LLC, ("MEC"), a subsidiary of Calpine Corporation and the owner of the Metcalf Energy Center Project, hereby files this "Compliance Filing Made Under Protest." The purpose of this filing is two fold.

First, and foremost, MEC respectfully requests that the Commission Staff review and approve the attached Revised Visual Plume Mitigation Plan (the "Revised Plan") and issue a letter confirming that MEC may begin pouring foundations for the Metcalf Energy Center Project. The Revised Plan incorporates the requested changes set forth in the Commission Staff's April 25, 2003 letter from Mr. Munro to Ms. Kristen O'Kane. Accordingly, having satisfied Staff's request, the Commission Staff should approve the Revised Plan and issue a letter authorizing the pouring of foundations.

Second, the letter also serves as MEC's notice to the Commission Staff that this compliance filing is being made under protest with full reservation of rights. Specifically, Calpine contends there is no basis in the record for the restrictions requested by Staff for the Revised Plan. The Commission Staff has placed MEC in the position of being forced to either agree to Staff demands that are not supported by the record in this proceeding or be further delayed in the pouring of major foundations. Accordingly, MEC files this Revised Plan under protest and reserves its rights to challenge Staff's requirements at a later date.

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All parties to this dispute agree that the Condition at issue, VIS-10, is less than clearly written. Given that the plain language of VIS-10 does not provide unequivocal guidance, it is necessary and appropriate to look at the surrounding text in the MEC Decision and the hearing record to ascertain the Committee's intent for VIS-10.

The MEC Decision and the hearing record clearly support the conclusion that VIS-10 is, in large part, a design criteria. That is, the Committee intended that the project be designed such that there would be no visible water vapor plumes when the temperature is above thirty degrees Fahrenheit (30°F) and the relative humidity is below ninety percent (90% RH). This design criteria became known during the siting case as the "30°F/90%RH design" or the "30/90 design."

In the express language of VIS-10, the "plant shall be designed to produce no visible plumes in conditions above 30 degrees Fahrenheit and below 90 percent relative humidity." Thus, it is undisputed that the MEC Committee in drafting the MEC Decision and the full Commission in approving the project understood that the 30/90 design dictated the design parameters for the "plant," both the Cooling Tower and the Heat Recovery Steam Generators ("HRSGs").

This 30/90 design criteria was clearly articulated during the MEC hearings. MEC's witness confirmed that the 30/90 design would eliminate plumes from the cooling tower when the temperature is above 30 degrees Fahrenheit and the relative humidity is below ninety percent:

MR. HARRIS: Let's talk about that *design*. You talked about 30 degrees Fahrenheit and is it 90 degrees relative humidity?

MR. DUNSTAN: 90 percent relative humidity.

MR. HARRIS: 90 percent. I'm sorry. What does that mean in simplest terms?

MR. DUNSTAN: That means it's an extremely chilly damp day in the Coyote Valley. This is very unusual weather conditions, when it's that cold and damp simultaneously.

MR. HARRIS: *So put another way then if the temperature is above 30 degrees Fahrenheit and the relative humidity is below 90 percent –*

MR. DUNSTAN: *There will be no visible plumes from this [cooling] tower --*

MR. HARRIS: *– that means there will be no visible plumes from the tower. And that's the design point which you've set this facility to?*

MR. DUNSTAN: That's what we have proposed. (MEC Transcripts, 2-15-01, p. 315; emphasis added.)

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Similarly, the 30/90 design was intended to eliminate plumes from the HRSGs at these same ambient temperature and humidity conditions:

[Mr. Dunstan:] In the case of the HRSGs for the Metcalf Energy Center, we've confirmed that the *design point conditions* we've been talking about, which is 30 degrees dry bulb and 90 percent relative humidity, we can entirely shut off the flow of boiler feed water to the final stage of the heat transfer sections in the boiler near the stack, that is. (MEC Transcripts, 2-15-01, p. 317; emphasis added.)

Mr. Dunstan's summary of the evidence confirms the focus on the 30/90 design point for the MEC project cooling tower and HRSGs:

MR. DUNSTAN: The technologies we've proposed and the *design point conditions* that we proposed will be very effective in eliminating the occurrence of visible water vapor plumes to a small number of hours of extreme weather conditions of extremely low ambient temperature and coincident high relative humidity in the Coyote Valley in Santa Clara County California. (MEC Transcripts, 2-15-01, p. 319; emphasis added.)

The above quoted testimony of the MEC witness is persuasive on this point: The MEC testimony clearly articulated a design point for both the cooling tower and the HRSG. Even more persuasive is the fact that the MEC testimony was incorporated into the language of VIS-10. Specifically, the VIS-10 condition protocol (page 392 of the Commission Decision, first bullet) refers to 30°F and below 90% relative humidity design condition for visible plumes from both the cooling tower and the HRSG stacks. Thus, the express language of VIS-10 applies the 30/90 design criteria to both the cooling tower and the HRSGs. Again, MEC has satisfied this criteria.

It is equally important to note that the MEC Decision recognizes that water vapor plumes may occur. This is in marked contrast to Staff's new position that there can be zero plumes from the HRSGs at any time. Specifically, the MEC Committee recognized (1) there will be plumes on occasion and (2) those occasions are so infrequent that the potential impacts are less than significant:

Water vapor plumes may be noticeable on occasion, but with the implementation of the *specified design parameters*, mitigation

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measures, and the Conditions of Certification, such occurrences will be *infrequent and not significant*. (MEC Final Decision, pp. 380-381, Findings and Conclusions 6; emphasis added.)

Accordingly, in marked contrast to Staff's "no plumes at any time under any conditions" dictates, the MEC Decision clearly recognizes that there may be plume formation under certain meteorological conditions outside the design criteria for the project and that those occurrences are so rare and infrequent to be less than significant under CEQA.

Staff has also taken the position that the MEC project must suffer a partial shutdown if plumes form under these rare meteorological conditions. In contrast, the MEC Decision does not require a shutdown or even a curtailment should an actual problem arise related to water vapor plumes:

If more than two (2) violations of any standard or standards occur in any calendar year, the power plant shall prepare and submit a revised operating plan to the CPM that demonstrates how the plant will meet these standards. (MEC Final Decision, VIS-10.)

Accordingly, shutdown or curtailments are not required to be included as measures in the MEC's plume abatement plan.

Staff's position on the MEC plume plan is inconsistent with Condition VIS-10, the MEC Decision, and, ironically, Staff's own position during the siting case. The MEC Decision notes, among other things, that the Staff abandoned its request to shutdown the project due to plume formation:

Staff abandoned its previous position that the facility be shutdown in the event plumes were visible for more than 1 hour per 24 hour period or more than 14 hours per calendar year. [cites.] MEC Decision, footnote 126, p. 368.

Notwithstanding the fact that Staff "abandoned" its shutdown position in the siting case, now, in the compliance phase, Staff has taken the position that MEC must curtail operations if plume formation is theoretically possible under certain extreme and very rare metrological conditions (i.e., generally, when temperatures are below 30 degrees and, concurrently, relative humidity is above 90%, as shown on the curves submitted). Specifically, the Staff's prohibition on duct firing and PAG under certain conditions as now proposed in their response to the latest MEC plume plan is a curtailment. A curtailment is a partial shutdown.

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Thus, while the MEC Decision clearly rejects shutdowns for plumes, the Staff position in the compliance phase requires a shutdown. The Staff rejected a previous draft of the plume abatement plan which indicated that MEC would evaluate the potential for eliminating duct firing and PAG as a plume abatement measure in the event the requirements of VIS-10 were not met. Further, Staff has also insisted that MEC revise the plan to automatically provide for these curtailments as a strategy for reducing plume formation, even if the requirements of VIS-10 are otherwise being met. For example, if a plume were to form from the cooling tower when the plant is operating the duct burners or PAG system, the Staff is requiring MEC to curtail operation by discontinuing duct burning and PAG operation, even though the most restrictive possible reading of VIS-10 allows for the possibility of up to 14 hours per year of plume formation from the cooling tower.

All parties agree that VIS-10 is poorly crafted. Unfortunately, in the face of that ambiguity, Staff has elected to take the most strident enforcement position. Staff has, in essence, read into VIS-10 a "no plumes, at any time, under any conditions" standard for the HRSGs, and a "mitigate at any cost" standard for the cooling towers, despite the clear language in the MEC Decision that plumes are expected and sufficiently rare to be insignificant, given the 30/90 design parameters. Similarly, despite having considerable enforcement discretion, Staff has called for curtailment of the MEC project under certain conditions when Staff itself in the siting case abandoned the shutdown position, even during situations where compliance with VIS-10 would not require such curtailments.

Given the need to pour foundations, MEC has decided to agree to revise the Plume Abatement Plan to conform to Staff's demands, but MEC does so under protest with the reservation of all rights to appeal Staff's ruling through any and all appropriate channels. MEC will, of course, adhere to the Commission approved Revised Plan, but the Commission Staff is hereby served with notice of MEC's intent to seek redress through all appropriate avenues, without waiving, or in any way compromising MEC's rights and duties under existing law and regulation.

Your expeditious response is requested.

Sincerely,

Jeffery D. Harris
Attorneys for Metcalf Energy Center, LLC

cc: Commissioners