

SEP - 1 2016

STATE OF ILLINOIS  
Pollution Control Board

ILLINOIS POLLUTION CONTROL BOARD  
September 1, 2016

CALPINE CORPORATION (ZION ENERGY )  
CENTER), )

Petitioner, )

v. )

ILLINOIS ENVIRONMENTAL )  
PROTECTON AGENCY, )

Respondent. )

PCB 16-112  
(Variance – Air)



ORIGINAL

**HEARING OFFICER ORDER**

The parties are hereby notified that the above-captioned matter has been assigned to the hearing officer noted below. From this date forward, any document filed with the Clerk of the Board must also be served on the hearing officer. Electronic service on the hearing officer is sufficient. The parties are encouraged to consent to receive e-mail service of my orders. Consent may be e-mailed and need only include a name, e-mail address and reference to this docket number.

In an effort to assist the Board in its determination of petitioner's variance petition, the petitioner and the respondent are directed to file respective written responses addressing the attached questions on or before September 22, 2016.

The parties or their legal representatives are directed to participate in a telephonic status conference with the hearing officer on September 8, 2016, at 10:30 a.m. The telephonic conference must be initiated by the petitioner, but each party is nonetheless responsible for its own appearance. At the conference, the parties must be prepared to discuss the status of the above-captioned matter.

IT IS SO ORDERED.

Bradley P. Halloran  
Hearing Officer  
Illinois Pollution Control Board  
James R. Thompson Center, Suite 11-500  
100 W. Randolph Street  
Chicago, Illinois 60601  
312.814.8917  
[Brad.Halloran@illinois.gov](mailto:Brad.Halloran@illinois.gov)

CERTIFICATE OF SERVICE

It is hereby certified that true copies of the foregoing order were e- mailed and mailed first class, on September 1, 2016, to each of the persons on the service list below.

It is hereby certified that a true copy of the foregoing order was hand delivered to the following on September 1, 2016:

John T. Therriault  
Illinois Pollution Control Board  
James R. Thompson Center  
100 W. Randolph St., Ste. 11-500  
Chicago, Illinois 60601

A handwritten signature in black ink that reads "Bradley P. Halloran" with a horizontal line underneath.

Bradley P. Halloran  
Hearing Officer  
Illinois Pollution Control Board  
100 W. Randolph Street, Suite 11-500  
Chicago, Illinois 60601  
(312) 814-8917

@ Consents to Electronic Service

PCB 2016-112@  
Richard M. Saines  
Baker & McKenzie LLP  
300 E. Randolph Street  
Suite 5000  
Chicago, IL 60601

PCB 2016-112 @  
Charles E. Matoesian  
IEPA  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, IL 62794-9276

PCB 2016-112  
Heidi M. Whidden  
Calpine  
717 Texas Avenue  
Suite 1000  
Houston, TX 77002

PCB 2016-112  
Calpine  
5701 West Ninth Street  
Zion, IL 50099

## **BOARD QUESTIONS FOR CALPINE CORPORATION**

### **Map the facility and other important locations:**

1. On a map from Illinois EPA's most recent Annual Air Quality Report, show the locations of:
  - Zion Energy Center;
  - Illinois EPA's air quality monitoring stations;
  - Areas currently in nonattainment for SO<sub>2</sub>; and
  - Areas being modeled for future SO<sub>2</sub> area designation recommendations.

### **Provide a plan to fully comply during the requested variance's term:**

2. Calpine projects that the distillate oil in the tanks at Zion Energy Center (the facility) will exceed 15 ppm sulfur when the requested variance expires (2021).<sup>1</sup> The Board cannot grant a variance from a regulation without a plan to achieve full compliance before the requested variance expires.<sup>2</sup> Provide a plan for full compliance with 35 Ill. Adm. Code 214.161(b)(2) (the sulfur content rule) without a variance by 2021 in all projected fuel usage scenarios.

### **State the net overage in projected emissions under the requested variance versus under the sulfur content rule absent a variance:**

3. Calpine states that the emission factor for Zion is 22.39 pounds of SO<sub>2</sub> per hour when using distillate oil with 115 ppm sulfur content. With the existing supply of distillate oil (960,000 gallons), Calpine states that the facility can operate for 68.6 hours and can emit a total of 0.77 tons of SO<sub>2</sub> emissions. Alternatively, using 15 ppm sulfur distillate oil (emissions factor of 2.92 pounds of SO<sub>2</sub> per hour), Zion could emit a total of 0.1 tons of SO<sub>2</sub> over 68.6 hours.<sup>3</sup>

Provide a clear comparison of projected emissions under the requested variance versus projected emissions under compliance with the sulfur content rule absent a variance.

### **Describe the Zion's operations during the "worst case" scenario:**

4. Calpine describes a "worst case" for each of the averaging periods for the significant impact levels when operating at 75% and 100% load on distillate oil.<sup>4</sup>

In the scenario where Zion operates at 100% load, are all three combustion turbines operating simultaneously for 22.9 hours each (each burning 14,000 gallons of 115 ppm fuel per hour)? In this scenario, would the facility consume all 960,000 gallons of fuel and emit 0.77 tons of SO<sub>2</sub> in 22.9 hours? How likely is this scenario?

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<sup>1</sup> Exh. E to Amd. Pet.

<sup>2</sup> 35 Ill. Adm. Code 104.204(f).

<sup>3</sup> Amd. Pet. at 8, 13; Exh. D to Amd. Pet.

<sup>4</sup> Amd. Pet. at 16–17.

**Further describe “high first high” modeling:**

5. Provide a detailed description of the “high first high” modeling method discussed in the petition.<sup>5</sup> Explain whether this modeling method accurately characterizes the requested variance’s impacts.

**Provide operational limits to ensure Zion does not contribute to an exceedance:**

6. Calpine conducted significant impact level analysis for its requested variance assuming the continued use of 115 ppm fuel. Its analysis showed that Zion would exceed significant impact levels in several circumstances.<sup>6</sup> According to this analysis, though the facility would not cause an exceedance of the SO<sub>2</sub> NAAQS by itself, it could contribute to one.<sup>7</sup>

In a revised compliance plan, propose limits on Zion’s operation such that, under all projected scenarios, it would not contribute to an exceedance of the SO<sub>2</sub> NAAQS.

**Provide a variance condition that minimizes the emissions’ environmental impact:**

7. A variance petition must discuss minimizing emissions’ impact on human, plant, and animal life in the affected area.<sup>8</sup> Provide this statement and propose a condition to the requested variance that minimizes the impact of additional emissions allowed by the requested variance.

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<sup>5</sup> Amd. Pet. at 14.

<sup>6</sup> Amd. Pet. at 16.

<sup>7</sup> *Id.*

<sup>8</sup> 35 Ill. Adm. Code 104.204(g)(3).

## **BOARD QUESTIONS FOR ILLINOIS EPA**

### **Will USEPA approve the requested variance?**

1. As described above, Zion Energy Center could contribute to an exceedance of SO<sub>2</sub> NAAQS under the variance. If granted, Illinois EPA must submit Calpine's variance to the U.S. Environmental Protection Agency for approval.

In Illinois EPA's judgment, if Zion could contribute to an exceedance of the SO<sub>2</sub> NAAQS, would USEPA approve the requested variance? Would the variance affect Illinois' obligations under the Clean Air Act?

### **Is Illinois EPA modeling emissions from Zion?**

2. Illinois EPA agreed to model SO<sub>2</sub> air quality related to Midwest Generation's coal-fired power plant in Waukegan, Lake County.<sup>9</sup> Illinois EPA is required to submit its modeling results to USEPA by January 13, 2017.<sup>10</sup>

Is the Zion Energy Center located within the area being investigated and modeled for this purpose? Are SO<sub>2</sub> emissions from Zion being modeled for this or any other future SO<sub>2</sub> nonattainment area designation recommendation? Has Illinois EPA identified Zion as a culpable source to any area currently being investigated and modeled for a future SO<sub>2</sub> area designation?

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<sup>9</sup> Letter from Lisa Bonnett, IEPA Director, to Susan Hedman, USEPA Region V Administrator (Jan. 14, 2016) (listing facilities for SO<sub>2</sub> air quality characterization under data requirements rule), *available at* <https://www.epa.gov/sites/production/files/2016-06/documents/il.pdf>; Letter from Robert Kaplan, Acting USEPA Region V Administrator, to Julie Armitage, IEPA Bureau of Air Pollution Control Chief (Mar. 18, 2016) (accepting IEPA's list), *available at* <https://www.epa.gov/sites/production/files/2016-06/documents/il-response.pdf>.

<sup>10</sup> See USEPA, SO<sub>2</sub> NAAQS Data Requirement Rule Fact Sheet, *available at* [https://www.epa.gov/sites/production/files/2016-06/documents/so2\\_data\\_requirements\\_rule\\_factsheet\\_081215.pdf](https://www.epa.gov/sites/production/files/2016-06/documents/so2_data_requirements_rule_factsheet_081215.pdf).