

Illinois Environmental Protection Agency  
Bureau of Air  
Permit Section

Responsiveness Summary for the  
Revised Clean Air Act Permit Program (CAAPP) Permit Issued to:

Electric Energy Inc. for the  
Joppa Power Station  
Joppa, Illinois

June 8, 2017

Source I.D. No.: 127855AAC  
Permit No.: 95090120

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Attachment 1: Changes between the Draft Permit And the Issued Permit

## **A. DECISION**

On June 8, 2017, the Illinois EPA issued a revised Clean Air Act Permit Program (CAAPP) permit to Electric Energy, Inc. for the Joppa Power Station (Joppa Station or Joppa).

## **B. BACKGROUND**

The Joppa Station is a coal-fired electric power plant owned and operated by Electric Energy, Inc. (Electric Energy). The plant has six coal-fired boilers that produce steam that is then used to generate electricity. The Joppa Station qualifies as a major source of emissions under Illinois' Clean Air Act Permit Program (CAAPP).

The CAAPP is Illinois' operating permit program for sources of emissions pursuant to Title V of the federal Clean Air Act. The CAAPP is administered by the Illinois EPA. The CAAPP generally requires that major stationary sources of emissions in Illinois apply for and obtain CAAPP permits. CAAPP permits contain conditions identifying applicable air pollution control requirements under the federal Clean Air Act (CAA) and Illinois' Environmental Protection Act (Act). Compliance procedures, including testing, monitoring, recordkeeping and reporting requirements, are also established as required or necessary to assure compliance and accomplish the purposes of the CAAPP. The conditions of a CAAPP permit are enforceable by the Illinois EPA, USEPA and the public.

The Illinois EPA issued the initial CAAPP permit for the Joppa Station on September 29, 2005. Electric Energy appealed this permit to the Illinois Pollution Control Board (Board), challenging a number of conditions in the permit. On November 17, 2005 the Board accepted the appeal and on February 16, 2006 the Board confirmed that this permit was stayed in its entirety by operation of law.<sup>1</sup>

Electric Energy, Inc. and the Illinois EPA, with the assistance of the office of the Illinois Attorney General, worked together to settle the appeal of the CAAPP permit for Joppa through the significant modifications made to the permit. In conjunction with the negotiations for settling the permit appeal, the Illinois EPA implemented a formal reopening of the Joppa CAAPP permit under the CAAPP's procedures for reopening. The purpose of the reopening was to address additional requirements in the CAAPP permit that became effective to Joppa since the original CAAPP permit issuance in 2005.

The CAAPP permit that has now been issued for Joppa is the result of the negotiations for resolving the permit appeal and the reopening proceeding. This is the final step in getting an up-to-date CAAPP permit in place for the Joppa Station. Provisions have now been added in this permit to address emission control requirements that have been adopted by the USEPA and Illinois since the initial CAAPP permit was issued.<sup>2</sup> While Joppa has been required to comply with these requirements as they took effect, the CAAPP

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<sup>1</sup> The Joppa Station is one of many coal-fired power plants in Illinois whose initial CAAPP permits were subsequently appealed to the Board and stayed in their entirety.

<sup>2</sup> The principal "new" requirements that were added into the CAAPP permit for the Joppa Station are applicable requirements of recently adopted USEPA rules, such as the Cross State Air Pollution Rule (CSAPR) and the Mercury and Air Toxics Standards (MATS).

permit has now been revised to include provisions addressing these requirements.

The permit that has now been issued also includes a number of other changes to bring the CAAPP permit for the Joppa Station up to date. It restates the limits set by construction permits issued for projects at Joppa since the initial CAAPP permit was issued in 2005. This issued permit also provides a Compliance Assurance Monitoring (CAM) Plan for the particulate matter (PM) emissions of the six coal-boilers at the plant.

### **C. OPPORTUNITY FOR PUBLIC COMMENTS**

The issuance of this revised permit was preceded by a public comment period in accordance with Section 39.5(8) of the Act and 35 IAC Part 252. A draft of the revised permit and the accompanying Statement of Basis prepared by the Illinois EPA were made available for review by the public at the Illinois EPA Headquarters in Springfield.<sup>3</sup> The comment period began on November 23, 2016 and ended on January 23, 2017.

The planned issuance of a revised CAAPP permit for the Joppa Station generated a number of comments from a group of environmental advocacy organizations and the USEPA. The comments were helpful to the Illinois EPA in the decision-making process and these comments were fully considered by the Illinois EPA prior to issuing the revised permit.

In this Responsiveness Summary, the comments concerning specific conditions of the permit are discussed first in Section E of this document. For simplicity and clarity, these comments have been arranged in the same order as the conditions are arranged in the CAAPP permit. Comments from the source that identify errors in wording and cross-references in specific conditions of the draft permit are also included in Section E. General comments about this planned permit action that are not related to specific conditions of the permit are addressed in a separate section of the document.

### **D. AVAILABILITY OF DOCUMENTS**

Copies of this Responsiveness Summary and the revised CAAPP permit that has been issued are being made available for viewing by the public at the Illinois EPA's Headquarters at 1021 North Grand Avenue East in Springfield.

Copies are also available electronically at [www.epa.illinois.gov/public-notices](http://www.epa.illinois.gov/public-notices) and [www.epa.gov/region5/air/permits/ilonline.html](http://www.epa.gov/region5/air/permits/ilonline.html).

Printed copies of these documents are also available free of charge by calling or contacting Rachel Stewart in the Office of Community Relations.

217-782-2224 Desk line  
217-782-9143 TDD

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<sup>3</sup> Illinois EPA, *Statement of Basis for the Planned Issuance of a Revised CAAPP Permit Through Reopening and Significant Modification And a Revised Acid Rain Program Permit For: Electric Energy, Inc., Joppa Power Station*, November 22, 2016 (Statement of Basis).

[rachel.stewart@illinois.gov](mailto:rachel.stewart@illinois.gov)

Questions about this permit proceeding should also be directed to Ms Stewart.

**E. COMMENTS ON SPECIFIC PERMIT CONDITIONS WITH RESPONSES BY THE ILLINOIS EPA**

**I. Comment Regarding Section 2 of the Permit  
(List of Abbreviations/Acronyms Used in This Permit)**

1. Permit Condition: 2.0  
Related Condition: 6.4.6(a)

**Comment:**

The Draft Permit contains an undefined term for which a definition must be provided in order to ensure the terms are clear and enforceable, as required by Title V. See *In re Cash Creek Generation, LLC*, 2012 EPA CAA Title V Lexis 5 ("One purpose of the title V program is to 'enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements'" ) (citing 57 Fed. Reg. 32250, 32251 (July 21, 1992)).

The Draft Permit uses the term "excepted" monitoring systems in Condition 6.4.6(a)(i), and it is not clear what "excepted" monitoring systems means. If Illinois EPA means "accepted" monitoring systems, it should include that correction; otherwise, it should clearly explain what "excepted" monitoring systems means.

**Response:**

In the draft permit, the term "excepted monitoring system" is correct. This term is used by Illinois in 35 IAC Part 225, as well as by USEPA in the Cross State Air Pollution Rule (CSAPR), as it references provisions of the federal Acid Rain Program. This term is used to refer to certain alternative approaches to monitoring emissions that are acceptable approaches under these rules. For example, for emissions of mercury under 35 IAC Part 225, sorbent trap monitoring is an acceptable method for monitoring mercury emissions.<sup>4, 5</sup> As the term "excepted monitoring system" is used in particular rules, the meaning of the term is governed by those rules. It would not be appropriate for the permit to include a separate explanation for this term in the CAAPP permit.

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<sup>4</sup> Sorbent trap monitoring is addressed by USEPA Reference Method 30B, *Determination of Total Vapor Phase Mercury Emissions from Coal-Fired Combustion Sources Using Carbon Sorbent Traps*.

<sup>5</sup> In 35 IAC 225.130, a "sorbent trap monitoring system" is defined as follows, Sorbent Trap Monitoring System" means the equipment required by this Appendix B of this Part [35 IAC Part 225] for the continuous monitoring of Hg emissions, using paired sorbent traps containing iodated charcoal (IC) or other suitable reagents. This excepted monitoring system consists of a probe, the paired sorbent traps, an umbilical line, moisture removal components, an air tight sample pump, a gas flow meter, and an automated data acquisition and handling system. The monitoring system samples the stack gas at a rate proportional to the stack gas volumetric flowrate. The sampling is a batch process. Using the sample volume measured by the gas flow meter and the results of the analyses of the sorbent traps, the average mercury concentration in the stack gas for the sampling period is determined, in units of micrograms per dry standard cubic meter (µg/dscm). Mercury mass emissions for each hour in the sampling period are calculated using the average Hg concentration for that period, in conjunction with contemporaneous hourly measurements of the stack gas flow rate, corrected for the stack moisture content.

**II. Comments Regarding Conditions in Section 5 of the Permit  
(Overall Source Conditions)**

**1. Permit Condition: 5.2.8**

**Comment:**

Condition 5.2.8(a)(i) incorporates into the draft permit the Permittee's Control Measures Record dated November 7, 2016, and states that

"[a]ny revised version of the Control Measures Record prepared by the Permittee and submitted to Illinois EPA while this permit term is in effect is automatically incorporated by reference. Upon such automatic incorporation, the revised plan replaces the version of the plan previously incorporated by reference."

Additionally, Condition 5.2.8(a)(ii) states:

"[i]n the event that within 30 days of receipt of a revised Control Measures Record the Illinois EPA notifies the Permittee in writing of any deficiency with the revision, then, within 30 days of such notice, the Permittee shall respond with relevant additional information or a further revision to the Control Measures Record."

As written, the draft permit allows for the Control Measures Record to be revised and automatically incorporated by reference into the permit without allowing the opportunity for public notice and comment. Based on our review of the Control Measures Record and the permit record, we find that the Control Measures Record includes measures that are necessary to ensure continuous compliance with applicable PM and visible emissions standards. Thus, the Permittee could make significant changes to control measures that may not assure compliance with applicable requirements. Those changes would then be automatically incorporated into the draft permit without the opportunity for review and comment.

Pursuant to Section 39.5(8) of the Act, Illinois EPA must provide notice to the public, including an opportunity for public comment, on each significant modification to a CAAPP permit. Illinois' CAAPP further provides in Section 39.5(14)(c)(ii) of the Act that "every significant change in existing monitoring permit terms or conditions and every relaxation of reporting or recordkeeping requirements shall be considered significant." Additionally, the federal Title V regulations require all permit modification proceedings to provide adequate procedures for public notice and comment except for minor modifications. 40 CFR 70.7(h). The Control Measures Record is incorporated into and a part of the draft permit. Any change to the control measures identified in the Control Measures Record must be processed consistent with the appropriate permit revision procedures required by state and

federal law, including review by IEP A and opportunity for public comment, as appropriate. To address this issue,

Illinois EPA should revise Condition 5.2.8(a)(i) to require that changes to any of the control measures that are necessary for compliance with applicable requirements are addressed consistent with the appropriate Part 70 significant modification procedures. Alternatively, Illinois EPA could incorporate the following language at the end of Condition 5.2.8(a)(i): "Any revisions made to the Control Measures Record must be processed consistent with 40 CFR Part 70."

**Response:**

The approach that is being used to incorporate the Control Measures Record into the CAAPP permit by reference is based on USEPA guidance for Title V permits. This guidance recognizes that Title V permits may incorporate certain types of plans by reference provided that the "incorporation by reference" (IBR) meets certain criteria. Consistent with this guidance, the subject language of the permit was crafted to incorporate by reference certain plans into the CAAPP permit and to provide for the automatic incorporation of subsequent revisions to those plans during the term of the permit into the permit without the need for a formal revision of the permit.

In its first White Paper concerning implementation of the Title V permit program (White Paper 1),<sup>6</sup> the USEPA briefly discussed IBR. This subject was more fully discussed in its second White Paper (White Paper 2).<sup>7</sup> Together with citation and cross-referencing, IBR was recognized as an important tool for efficiently addressing applicable requirements in Title V permits.

Much of the USEPA guidance regarding IBR has dealt with the need to be specific and unambiguous with the materials being incorporated [see, White Paper 2, page 40 (IBR may only be allowed "to the extent that the manner of its application is clear.")]. However, in a well-publicized letter written a couple of years after issuance of the White Papers, USEPA answered a series of questions from the State and Territorial Air Pollution Program Administrators (STAPPA), one of which squarely addressed IBR for various Startup, Shutdown and Malfunction (SSM) and Operating and Maintenance (O & M) plans (STAPPA Letter).<sup>8</sup> USEPA explained that for those plans that, by virtue of a statute or rule, require incorporation into a Title V permit, IBR of the plans into a Title V permit was necessary. However, USEPA noted that revisions to incorporated plans could be accomplished without formal permit

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<sup>6</sup> Memorandum, "White Paper for Streamlined Development of Part 70 Permit Applications," from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, dated July 10, 1995 (White Paper 1).

<sup>7</sup> Memorandum, "White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program," from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, dated March 6, 1996 (White Paper 2).

<sup>8</sup> Letter, John S. Seitz, Director, Office of Air Quality Planning and Standards, USEPA, to Robert Hodanbosi and Charles Lagges, STAPPA/ALAPCO, dated May 20, 1999 (STAPPA Letter).

revision if the permit provided that such revisions are automatically incorporated during the term of the permit.<sup>9</sup>

The STAAPA letter addressed the Startup, Shutdown and Malfunction Plans and the Operation and Maintenance Plans required of certain sources subject to NESHAPs. USEPA also observed that plans under 40 CFR Part 63 not requiring incorporation to a Title V permit "...need not be incorporated by reference, nor must their content be included as permit terms, in order to assure compliance with the relevant part 63 applicable requirements." For this permit proceeding, the control measures record is generally akin to various plans that are not required by law or rule to be incorporated into a Title V permit. This is because the basis for requiring the development and maintenance of this record is to support Periodic Monitoring rather than to fulfill independent applicable requirements.<sup>10</sup> However, the Illinois EPA also recognized that the CAAPP permit requires the source to implement the control measures in conformance with the control measures record. For this reason, the Control Measures Record was incorporated by reference but the permit was crafted to allow for future revisions to be automatically incorporated in the manner set forth by USEPA in the STAAPA letter.<sup>11</sup> This approach is logical in the sense that the control measures are not applicable requirements *per se* and the substantive obligation to obtain prior approval from a permit authority is not present in underlying rules. Moreover, this approach maintains reasonable flexibility in the control measures used for material handling operations, consistent with the flexibility provided for by the initial permit, subject to appropriate supervision by the Illinois EPA as any revision to Control Measures Record must be provided to and therefore be available for review by the Illinois EPA.<sup>12</sup>

Notwithstanding the rationale for this initial approach in the draft revised permit, further consideration of this issue has prompted the Illinois EPA, following consultation with Joppa, to modify the subject condition. More specifically, an exception to the broader "incorporation by reference" of the Control Measures Record is created for revisions to the Control Measures Record for certain operations or processes. These operations are: 1) Railcar

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<sup>9</sup> USEPA reasoned that the approach was in keeping with the underlying regulations in 40 Part 63 for SSM plans "which were promulgated subsequent to part 70 and which contemplate that the source will be able to make changes to the SSM plan without the prior approval of the USEPA or the permitting authority."

<sup>10</sup> In this regard, it is noteworthy that the implementation of the control measures identified in the Control Measures Record is not essential to compliance with the applicable opacity and PM limits, contrary to the claim made in this comment.

<sup>11</sup> It should be noted that this USEPA guidance also does not require permit revisions for revisions to a Title V permit application where the application has previously been incorporated into a Title V permit by reference. See, White Paper 1 at p 23.

<sup>12</sup> To assure prompt action by the source if the Illinois EPA's review of a revised Control Measures Record identifies concerns with the revision, a condition was added in the draft permit. Draft Condition 5.2.8(a) (ii) (Condition 5.2.8(a) (iv) in the issued permit) provides that if the source submits a revised Control Measures Record to the Illinois EPA and the Illinois EPA notifies the source of any deficiency in the revised record within 30 days, the source must respond with relevant additional information or a further revision to the Control Measures Record within 30 days of the written notice of the deficiency.

unloading; 2) Wind erosion from the storage piles; and 3) Dry fly ash load-out from the working silos and storage silos. These operations were identified on the basis of their potential for emissions, as they are the only operations addressed by the Control Measures Record whose emissions could, as a practical matter, exceed applicable standards.<sup>13</sup> For such operations, changes to the Control Measures Record affecting the nature, application or frequency of the relevant control measures will not be automatically incorporated into the permit but, instead, will require an appropriate permit revision before they can be implemented and maintained. This revision addresses USEPA's apparent concern regarding the threat of certain control measures changing without the existence of adequate safeguards.<sup>14, 15</sup>

The condition in the issued permit continues to maintain reasonable flexibility in the control measures used for material handling operations, consistent with the flexibility provided for by the prior permit. In addition, the condition will ensure that

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<sup>13</sup> The specified operations were identified based on the information provided in the permit application for emission rates. Of the operations addressed by the Control Measures Record, these four could have emissions that cause an exceedance of an applicable standard in the absence of control measures. The emission rates of these operations, which are not enclosed, are on the order of 5 to 10 pounds/hour. In comparison, the remaining operations are either located within buildings, underground or otherwise enclosed with maximum uncontrolled emission rates on the order of 0.5 pounds/hour or less. Additionally, it can be noted that there has not been a complaint history for nuisance dust or a history of any violations from any of the operations addressed by the Control Measures Record.

<sup>14</sup> In addition, the notion that every control measure identified in the Control Measures Record is "essential" to compliance, as advanced by the comment, is incongruous with the draft revised permit and the current record. The Illinois EPA has not historically treated the various control measures as necessary to assure compliance with applicable opacity or particulate matter standards. As explained repeatedly in other permit proceedings involving the CAAPP permits for coal-fired power plants, the initial CAAPP permit for this source has only required the use of the Control Records Measure "to support periodic monitoring."

<sup>15</sup> At least part of USEPA's concern on this issue may be the result of some confusion regarding the use of incorporation by reference for the Control Measures Record. Although the Control Measures Record is newly-incorporated and is enforceable under the CAAPP permit, that is not to say that the record's independent existence has been rendered obsolete or subordinated to the permitting procedures of the CAAPP. This is because incorporation by reference merely operates to make the object of the incorporation a part of a subject document. It does not affect the origin of, or any subsequent change in, the object so incorporated. For example, a state or federal rule can be incorporated into a Title V permit and thereafter may be enforced as a permit requirement. But what the rule requires, and the manner by which rule can be amended, is outside of the purview of Title V program, as regulations can only be revised through formal rulemaking or action by a court. The Control Measures Record required by this permit is similarly situated. Changes to the Control Measures Record remain at the election of Joppa, not the Illinois EPA, USEPA or the public. If the approach to incorporation by reference cannot be accomplished automatically, as set forth in the draft revised permit (Condition 5.2.8(a)(ii)), the only alternative is to compel the source to seek permit revision to incorporate an amended version of the Control Measures Record into the permit (See Condition 5.2.8(a)(iii)). As described above, the modified condition will require the source to seek a permit revision to incorporate by reference any changes to the Control Measures Record involving the four specified operations. Depending upon the nature of the change, the revision would follow the applicable procedures for administrative amendment, minor modification or significant modification.

any future changes to the Control Measures Record are subject to appropriate supervision by the Illinois EPA, as any such revision must be provided to and therefore be available for review by the Illinois EPA.<sup>16</sup>

III. Comments Regarding Conditions in Section 6.5 of the Permit  
(Mercury and Air Toxics Standard (MATS) Rule)

1. Permit Condition: 6.5.3(d)

Comment:

Condition 6.5.3(d) of the Draft Permit states:

Pursuant to 40 CFR 63.10000(b), at all times the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Illinois EPA which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

Although the Draft Permit explains what criteria *might* be used to ascertain whether operation of an affected source is in a manner consistent with safety and good air pollution control practices for minimizing emissions, it should delineate exactly how this determination will be made. Illinois EPA needs to be transparent with the public about how it plans to evaluate whether this requirement is being met, and avoid being unnecessarily vague, which would make this provision nearly impossible to enforce as a practical matter. USEPA Region 9 Title V Permit Review Guidelines (Sept. 9, 1999); *In re Cash Creek Generation, LLC*, Permit No. V-09-006, 2012 EPA CAA Title V Lexis 5, \*94-\*96 (USEPA Jun. 22, 2012). Transparency regarding which precise measures constitute operation "in a manner consistent with safety and good air pollution practices" is further required in order to ensure that citizen enforcement, a critical component of Clean Air Act's enforcement scheme, is possible. *Id.*; see also *McEvoy v. IEI Barge Services, LLC.*, 622 F.3d 671 (7th Cir. 2010).

Response:

"General duty" provisions of relevant rules, such as 40 CFR 63.10000(b), are not appropriate for further elaboration or explanation in a CAAPP permit, as is requested by this comment. It

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<sup>16</sup> To assure prompt action by the source if the Illinois EPA's review of a revised Control Measures Record identifies concerns with the revision, a condition was included in the draft permit. Draft Condition 5.2.8(a) (ii) (Condition 5.2.8(a) (iv) in the issued permit) provides that if the source submits a revised Control Measures Record to the Illinois EPA and the Illinois EPA notifies the source of any deficiency in the revised record within 30 days, the source must respond with relevant additional information or a further revision to the Control Measures Record within 30 days of the written notice of the deficiency.

is also not appropriate for the CAAPP permit to specify how the Illinois EPA will determine whether it considers the source to have fulfilled the obligations set forth in such provisions. The function of CAAPP permits is to set forth requirements and obligations that apply to sources, not to the Illinois EPA, the USEPA or other interested entities.<sup>17</sup> Accordingly, Condition 6.5.3(d) is proper as it reiterates the regulatory obligations established by 40 CFR 63.10000(b).

2. Permit Condition: 6.5.7(a)(i)

**Comment:**

Condition 6.5.7(a)(i) of the Draft Permit states that, pursuant to federal regulations for Mercury and Air Toxics Standards, Electric Energy must provide periodic test notifications pursuant to 40 CFR 63.7(b), 40 CFR 63.9(e), and 63.10030(d) at least 30 days prior to the start of testing. However, 40 CFR 63.7(b)(1) and 40 CFR 63.9(e) require the permittee to provide notification at least 60 days prior to the commencement of the relevant tests. Thus, the 30-day advance notice requirement in Condition 6.5.7(a)(i) contradicts federal law. Earlier notification will ensure that Illinois EPA has adequate time to conduct appropriate review of the site-specific test plans before they are approved. Thus, Illinois EPA must revise the Draft Permit to correct this error.

**Response:**

As originally adopted, 40 CFR 63.7(b)(1) would suggest a 60 day advance notification is required for performance tests under the MATS rule. However, this conflicts with the 30 day notification requirement in 40 CFR 63.10030. In recent technical corrections to the MATS rule, the USEPA corrected this error, revising Table 9 of 40 CFR 63 Subpart UUUUU, which addresses the applicability of the requirements 40 CFR Subpart A for sources subject to the MATS rule. The MATS rule now provides that 40 CFR 63.7(e)(1) is not applicable for purposes of the MATS rule. Rather 40 CFR 63.9 is applicable, except for the provision for 60-day advance notification prior to conducting a performance test in 40 CFR 63.9(e). Instead, the 30-day notification period per 40 CFR 63.10030(d) applies. [81 FR 20174 and 20202, April 6, 2016]

**IV. Comments Regarding Conditions in Section 7.1 of the Permit  
(Coal-Fired Boilers)**

1a. Permit Condition: 7.1.3(b) and (c)  
Related Conditions: 7.2.3(b)  
7.3.3(b)  
7.6.3(b)

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<sup>17</sup> As a general matter, the Illinois EPA would use its expertise and experience to determine whether the source has met the general obligations established in 40 CFR 63.1000(b). This would most commonly be expected to occur in relation to exceedance(s). In an enforcement action for exceedance(s) of an emission standard in the MATS rule, in addition to violation(s) of that standard, a "second" violation involving 40 CFR 63.10000(b) could also be alleged if the exceedance(s) appears to be the result of inadequate maintenance or poor operating practices by the source.

**Comment:**

The reopening of this permit comes after the *NRDC v. EPA* decision and after USEPA's issuance of a final rule invalidating all SSM affirmative defenses in state SIPs. Nonetheless, this Draft Permit still contains provisions that violate USEPA's updated SSM requirements in three key ways.

First, Condition 7.1.3(c) (and 7.2.3(b), 7.3.3(b), etc.) grants Electric Energy the authority to continue operating all operations at the Joppa Plant during periods of malfunction despite emissions exceedances, and provides a corresponding affirmative defense to injunctive relief for exceedances during those periods. Pursuant to *Nat. Res. Def. Council*, 749 F.3d at 1063, and USEPA's new SSM rule, these conditions are not permissible under the Clean Air Act and Illinois EPA should therefore remove them from the Permit.

Second, contrary to USEPA's new SSM rule, Condition 7.1.3(b) of the Draft Permit creates a complete bar to enforcement of exceedances during periods of startup, granting Electric Energy authority to exceed its emission limits during startup of the facility. This condition should also be removed from the Joppa Plant's Permit.

Third and finally, even assuming an affirmative defense to penalties were lawful (it is not, as discussed herein), the permit runs contrary to published USEPA standards for determining when a facility may be eligible for an affirmative defense to statutory penalties. USEPA has published recommended criteria delineating when a facility may qualify for an affirmative defense to statutory penalties. See Steven A. Herman & Robert Perciasepe, *USEPA, State Implementation Plans: Policy regarding Excess Emissions during Malfunctions, Startup, and Shutdown* (hereinafter "USEPA 1999 Policy"), at 3-4 (Sep. 20, 1999). Those criteria include a test to determine if an event qualifies as a malfunction, which provides that malfunctions must not be part of a pattern or stem from an avoidable event, and must be resolved as quickly as possible while minimizing impacts on air emissions. *Id.* USEPA also provides that excess emissions during startup must not be part of a pattern or stem from an avoidable event. *Id.* at 5-6. The Draft Permit deviates significantly from these criteria, opening up the possibility that the Plant might be improperly granted an affirmative defense. For instance, the Draft Permit authorizes continued operation of both the coal-fired boilers, coal handling equipment, and coal processing equipment during malfunctions where "necessary to provide essential service or to prevent injury to personnel or severe damage to equipment." See Condition 7.1.3(c)(i), 7.2.3(b)(i), and 7.3.3(b)(i). The Draft Permit includes no provision requiring that malfunctions not be part of a pattern or stem from an avoidable event, or that they be resolved as quickly as possible while minimizing impacts on air emissions. Similarly, the Draft Permit's authorization to exceed emission limits during startup requires only that the applicant take "all reasonable efforts . . . to minimize startup emissions, duration of individual startups and frequency of startups." See Condition 7.1.3(b)(i). Nowhere does the Draft Permit require that

any exceedances during startup not be part of a pattern or stem from an avoidable event.

Although the Draft Permit mimics provisions in Illinois's existing SSM SIP, in USEPA's proposed SSM SIP Call Rule, USEPA has already found that Illinois's SSM provisions are inconsistent with the Clean Air Act:

The USEPA believes that the inclusion of the complete bar to liability, including injunctive relief, the availability of the defense for violations during startup and shutdown, the burden-shifting effect, and the insufficiently robust qualifying criteria in 35 IAC 201.261, 35 IAC 201.262, and 35 IAC 201.265, are substantial inadequacies and render these specific SIP provisions impermissible.  
78 FR 12514-15.

Furthermore, USEPA subsequently re-drafted its proposed SIP Call rule to be consistent with *Nat. Res. Def. Council*, issuing a supplemental notice of proposed rulemaking that explicitly held that any defenses for emission exceedances during SSM events are unlawful:

[The Illinois SIP] create[s] an impermissible affirmative defense for violations of SIP emission limits. These provisions would operate together to limit the jurisdiction of the federal court in an enforcement action and to preclude both liability and any form of judicial relief contemplated in CAA sections 113 and 304. *State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction; Supplemental Proposal to Address Affirmative Defense Provisions in States Included in the Petition for Rulemaking and in Additional States: Proposed Rule*, 79 Fed. Reg. 55,920 (Sept. 17, 2014).

On May 22, 2015, USEPA finalized these changes, revising its guidance to make clear that affirmative defense provisions are not permissible in SIPs; and issuing SIP calls directing 23 statewide and local jurisdictions, including Illinois, to remove affirmative defense provisions from their SIPs. *USEPA, State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction* (May 25, 2015).

As such, in order to ensure that the Joppa Plant's CAAPP permit remains consistent with Clean Air Act requirements, the Draft Permit should be revised to allow agencies and the public to hold Electric Energy directly accountable any time the facility emits

large amounts of excess emissions, including during periods of SSM.<sup>18</sup>

Response:

The comment does not support the changes to the CAAPP permit for the Joppa Station that it recommends. As observed by this comment, the appropriate approach to SSM events for SIP emission limitations is a subject that USEPA has addressed in its SSM Rule or "SIP Call." Provisions of approved SIPs are not directly altered by the SIP call. USEPA clearly recognized this provision in the SIP case stating:

When the EPA issues a final SIP call to a state, that action alone does not cause any automatic change in the legal status of the existing affected provision(s) in the SIP. During the time that the state takes to develop a SIP revision in response to the SIP call and the time that the EPA takes to evaluate and act upon the resulting SIP submission from the state pursuant to CAA section 110(k), the existing affected SIP provision(s) will remain in place. 80 FR 33840 (June 12, 2015)

The SIP Call requires appropriate rulemaking by affected states and jurisdictions, not source-by-source actions during permitting. In this regard, as discussed in this comment, USEPA has reconsidered the provisions that address the potential for "excess emissions" during SSM in the SIPs of a number of states and local jurisdictions, including Illinois' SIP. USEPA has now found that many of these existing SIP provisions, including the relevant provisions of Illinois rules dealing with startup and malfunction and breakdown events, which USEPA had previously approved, are inconsistent with provisions of the CAA.<sup>19</sup> Accordingly, USEPA has

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<sup>18</sup> In any event, the Draft Permit should clarify that any finding by Illinois EPA that emission exceedances qualify for a variance under the permit's SSM provisions does not preclude either a USEPA enforcement action or a citizen suit pursuant to the CAA, for the reasons given above.

<sup>19</sup> Illinois' SIP, as codified at 35 IAC 201.149, prohibits startup (S) of an emission unit or continued operation of an emission unit during malfunction or breakdown (MB) if such operation would cause a violation of an applicable state emission standard absent express permit authorization. 35 IAC 201 Subpart I sets forth a two-step process for addressing compliance with state emission standards during SMB. The first step consists of obtaining authorization by means of a permit application to make a future claim of SMB. The second step involves making a viable claim of SMB. For startup, this consists of showing that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such an event. For MB, this consists of showing that continued operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. Inherent in this showing is the obligation to show that operation with excess emissions occurred only to the extent necessary.

Electric Energy sought SMB authorizations for certain units at the Joppa Station. The Illinois EPA reviewed these requests and, as appropriate, granted authorizations in the CAAPP permit to make claims of SMB. These authorizations do not equate to an "automatic exemption" from otherwise applicable state standards. These authorizations are fully consistent with long-standing practice in Illinois for permitting and enforcement. In particular, the nature of the coal-fired utility boilers is such that certain excess emissions may occur during SMB that a source cannot reasonably avoid or readily anticipate. However, the source may be held appropriately accountable for excess

issued the SIP Call, which requires those affected states and local jurisdictions to undertake rulemaking to appropriately revise their SIPs so that SSM events are appropriately addressed.<sup>20</sup>

Moreover, the USEPA does not mandate in the SIP Call that the current short-term emission limitations in the affected SIPs be made applicable at all times, as implied by this comment. Rather, the SIP Call requires that SIPs be revised so that they appropriately address SSM events. USEPA recognized that a number of different approaches may be possible and appropriate to address various types of emission units and their possible circumstances. One possible approach recognized by the SIP Call is the adoption of "alternative emission limitations" for SSM events.<sup>21</sup> The adoption of alternative emission limitations, as contemplated by the SIP Call, would be a task that would be carried out through rulemaking. In Illinois, this rulemaking would involve a proceeding before the Pollution Control Board in which the Illinois EPA, the affected sources and interested members of the public could all participate. In other words, while it is correct that certain provisions of Illinois' SIP dealing with SMB events have now been found by USEPA to be inconsistent with the Clean Air Act, altering these regulatory provisions must proceed through the rule of law. As such, the proper response is rulemaking to correct the now-identified flaw in these provisions that were the result of earlier rulemaking. The SIP call will not affect the requirements of this CAAPP permit until after Illinois acts to develop and put into place revisions to Illinois' SIP that respond to the SIP call.<sup>22</sup>

It is also noteworthy that the SIP call is not based on a quantitative evaluation by USEPA of the impacts on ambient air quality of extra emissions during SSM events. Rather, the SIP call is based on a reassessment of the language of the Clean Air Act by

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emissions that should not have occurred regardless of the authorizations in the CAAPP permit related to SMB. In summary, the provisions in the CAAPP permit related to SMB do not translate into any advance determinations related to actual occurrences of excess emissions. Rather, they provide a framework whereby Electric Energy is now provided with the ability to make a claim of SMB, with the viability of any such claim subject to further review.

<sup>20</sup> Parallel with its SIP Call related to SSM events and its work with affected states and other jurisdictions on revisions to their SIPs, USEPA is also committed to undertaking rulemaking to revise a number of emission standards that it adopted. These standards must also be revised so they appropriately address emissions during SSM.

<sup>21</sup> For purposes of the SIP Call, an alternative emission limitation is,

... an emission limitation in a SIP that applies to a source during some but not all periods of normal operation (e.g., applies only during a specifically defined mode of operation such as startup or shutdown). An alternative emission limitation is a component of a continuously applicable SIP emission limitation, and it may take the form of a control measure such as a design, equipment, work practice or operational standard (whether or not numerical).

80 FR 33842 (June 12, 2015)

<sup>22</sup> As with many USEPA rulemakings related to the Clean Air Act, the SIP Call is the subject of an appeal filed with the U.S. Court of Appeals in the District of Columbia, though it is too early to determine what effect this lawsuit may have on the timing or the effectiveness of the SIP Call.

USEPA, as guided by various court decisions related to SSM events.<sup>23</sup>

In addition, this comment has not provided any information to support the claim that the emissions of coal-fired power plants associated with SSM events are significant.

As a final point, notwithstanding representations made in this comment, the Illinois SIP contains no special provisions dealing with applicability of SIP emission limitations during shutdown of emission units. Accordingly, there are actually not any provisions in Illinois' SIP related to shutdown of emission units that need to be changed as a result of the SSMM SIP Call.<sup>24</sup>

b. Comment:

On June 14, 2016, USEPA issued draft rules proposing to immediately eliminate emergency affirmative defense provisions in its rules federal and state Title V operating permit programs. This rule would remove language in operating permits that provides an affirmative defense that permittees can assert in civil enforcement cases when noncompliance with technology-based emission limits occurs because of qualifying emergency events, even before state SIPs have been updated. *USEPA, Removal of Title V Emergency Affirmative Defense Provisions From State Operating Permit Programs and Federal Operating Permit Program, Proposed Rule*, 81 FR 38,645 (June 14, 2016).

USEPA is proposing to remove these provisions immediately because they are inconsistent with the enforcement structure of the Clean

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<sup>23</sup> In the SIP Call, USEPA addressed the implications of the SIP Call for air quality in its response to certain comments that opposed the SIP Call because USEPA had not demonstrated that the provisions at issue in the SIP Call have contributed to specific violations of air quality standards or caused harm to public health or the environment.

As explained in the February 2013 proposal, the Supplemental Notice of Proposed Rulemaking and this document, the USEPA does not interpret its authority under Section 110(k) (5) of the CAA to require proof that a deficient SIP provision caused a specific violation of the NAAQS at a particular monitor on a particular date, or that a deficient SIP provision undermined a specific enforcement action.

Section 110(k) (5) explicitly authorizes the EPA to make a finding that a SIP provision is substantially inadequate to "comply with any requirement of" the CAA, in addition to the authority to do so where a SIP is inadequate to attain and maintain the NAAQS or to address interstate transport. In light of the court's decision in *NRDC v. EPA*, the EPA has reexamined the question of whether affirmative defenses are consistent with CAA requirements for SIP provisions. As explained in this action, the EPA has concluded that such provisions are inconsistent with the requirements of section 113 and section 304. 80 FR 33859 (June 12, 2015)

<sup>24</sup> It should also be recognized that the permit conditions challenged by this comment, like conditions challenged by several other comments, are not within the scope of the revisions to the permit that were planned in this "reopening proceeding." Effectively, this comment challenges the validity of certain conditions in the 2013 CAAPP permit that implemented Illinois rules for startups and malfunction/breakdown events. The current proceeding is governed by the applicable requirements of Title V and Illinois' CAAPP program, which act to limit the scope to the revisions that would be made to the CAAPP permit in this proceeding.

Air Act and recent court decisions from the D.C. Circuit. As USEPA explains:

...these provisions have never been required elements of state operating permit programs. The removal of these provisions is consistent with other recent EPA actions involving affirmative defenses and would help harmonize the enforcement and implementation of emission limitations across different CAA programs.  
81 FR 38,648.

And critically, USEPA *urges states to cease including these provisions immediately* even before the rule is finalized, or state SIPs are updated:

USEPA also encourages states to exercise their discretion to cease including emergency affirmative defense provisions as early as practicable. In many cases, there will be no reason for states to wait for the EPA to take final action on this proposal to begin implementing this suggestion.  
81 FR 38,653.

This exact same logic can and should lawfully be applied to the other unlawful portions of Illinois's State SIP for SSM events. Given this precedent and the clear guidance from the national level that these exceptions are improper and should be phased out when possible, Illinois EPA has the authority to remove these provisions.

**Response:**

**This comment does not justify the changes to the CAAPP permit for the Joppa Station that are requested. Rather it shows that changes to Illinois' current provisions dealing with state emission standards during SMB events should occur through rulemaking. In this regard, this comment provides an example of such a rulemaking currently being carried out by USEPA to correct certain provisions in its own rules that have been determined to be inconsistent with the Clean Air Act.**

In addition, this comment does not show that USEPA has recommended that states use their discretion when processing Title V permits to deviate from or disregard applicable state rules and SIPs. In the cited material, USEPA merely observes that its current rulemaking removing the Emergency Defense Provision from its rules for Title V Permit Programs need not be concluded before states can begin similar actions to appropriately revise the laws or rules that comprise their Title Permit V programs. This observation by USEPA, which relates to the respective roles of USEPA and the states in enacting Title V Permit Program, is not directed to the content of individual Title V permits that are currently being processed by states.

c. Comment:

There are several avenues available to remove the unlawful state SSM Provisions from this permit. As already discussed, Illinois EPA's best course of action with respect to the SSM provisions that have been invalidated by the D.C. Circuit and subsequent

USEPA rules would be to rescind those sections entirely. However, even if Illinois EPA disagrees, it should at least take steps to ensure that any SIP provisions in individual facility permits such as this one are not allowed to persevere after the SIP is updated. There are a few different ways Illinois EPA could accomplish this.

First, Illinois EPA could establish explicit sunset provisions in the permit making clear that the SSM exceptions only apply for as long as the current state SSM SIP remains in place. This would be the most straightforward and defensible way to ensure that the permit does not needlessly allow violations of air quality standards during SSM events for longer than it should.

Illinois EPA also could include in the Title V permit an explicit provision noting that the CAAPP permit will be revisited and updated to remove all SSM exceptions once the state SIP is updated. We do not believe this process is as straightforward or as defensible as the sunset provisions option discussed above, but it would at the least start a process for removing outdated SSM provisions that does not require the entire permit to be revisited.

Finally, separately and in addition to adding one of the provisions above, Illinois EPA should note in its statement of basis that to the extent any SSM provisions remain in this permit, they will automatically become unenforceable the moment Illinois updates its SSM SIP and removes the provisions underlying this permit's SSM exceptions. To be clear, we do not believe that doing so would fully discharge Illinois EPA's obligations here to stop violating the explicit terms of the Clean Air Act; but at least such a provision would make clear Illinois EPA's intent in issuing this permit.

**Response:**

**As already discussed, the U.S. Circuit Court for the District of Columbia has not taken action invalidating the SMB provisions that are currently in Illinois' rules and SIP. Rather, this court has directed USEPA to initiate action to require Illinois to appropriately revise the provision of its SIP addressing SMB and the USEPA has taken such action. Accordingly, it would have been inappropriate in the issued permit for the Joppa Station for the Illinois EPA to take the source-specific action requested by this comment. Rather the SMB provisions of Illinois' current SIP must be addressed by revisions to the SIP.**

Moreover, as revisions to Illinois rules and SIP occur, the transition between those revised rules and the previous rules would necessarily be addressed in the rulemaking for revisions to the rules. It would have been inappropriate for the Illinois EPA in the permit for the Joppa Station to presume how the revised rules will address the transition from the current rules. The inclusion of provisions in the permit for the Joppa Station that purported to address this transition would also have posed a risk

that those provisions would be inconsistent and conflict with the approach ultimately taken in the revisions to the rules.<sup>25</sup>

d. Comment:

Even if the underlying Illinois SSM SIP were lawful (which as discussed above, it is not), this Draft Permit still would fail to comply with those SIP provisions because it fails to provide guidance for what sort of malfunctions or startup events might justify exceedances. This problem recurs several times, in both the startup and the malfunction and breakdown sections of the Draft Permit.

In the context of malfunctions, the Draft Permit's key failure is that it does not describe what sort of malfunctions can justify exceedances of applicable air standards. In particular, the Draft Permit fails to explain what "essential service" would justify continuing to operate the facility during a malfunction. See Draft Permit at Condition 7.1.3(c)(i). Without limiting the set of "services" that a plant operator could use to justify continued operation, Illinois EPA runs the risk of allowing the Draft Permit's exemptions to render its limits on operating during malfunction events essentially meaningless. The Draft Permit also purports to establish a "continuing obligation to minimize excess emissions during malfunction or breakdown," Condition 7.1.3(c)(v) - but Illinois EPA has already acknowledged in several of its Statement of Bases for other draft permits that "the word 'minimize' is ambiguous and usually lacks regulatory meaning." See, e.g. Illinois EPA, Statement of Basis for a Planned Significant Modification of the Clean Air Act Permit Program (CAAPP) Permit for Illinois Power Generating Company Newton Energy Center at 31 (Feb. 25, 2015); Illinois EPA, Statement of Basis for a Planned Significant Modification of the Clean Air Act Permit Program (CAAPP) Permit for Midwest Generation, LLC - Waukegan Generating Station at 33 (2015); Illinois EPA, Statement of Basis for a Planned Significant Modification of the Clean Air Act Permit Program (CAAPP) Permit for Midwest Generation, LLC - Powerton Generating Station at 33 (March 9, 2015). We agree with Illinois EPA when it noted in these documents that the word "minimize" is too vague and urge the agency to follow its own advice and replace that term, as well as all such vague language in the Draft Permit, with "new language [that would] more clearly reflect the objective for these conditions." *Id.*

This problem is also prevalent in the startup provisions, where the permit purports to establish a "continuing obligation to demonstrate that all reasonable efforts are made to minimize

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<sup>25</sup> Because of this potential conflict, the inclusion by the Illinois EPA of such provisions in the CAAPP permit for the Joppa Station could have disrupted the settlement of the appeal of the initial 1995 CAAPP permit. It would certainly have constituted grounds for appeal by the source of the provisions of the revised CAAPP permit dealing with SMB. The inclusion of such provisions in the permit would have suggested that the Illinois EPA believed that it had the legal authority to specify in this permit how this transition would occur for the Joppa Station. Moreover, it would have further suggested that the transition for the Joppa Station could be handled differently than the transition for other sources that were addressed as part of a rulemaking proceeding.

startup emissions, duration of individual startups and frequency of startups." Draft Permit at Condition 7.1.3(b)(i). The same analysis applies to this provision as elucidated above.

Response:

This comment does not support changes to the permit that have been generally requested. As discussed, the CAAPP permit for the Joppa Station implements provisions of Illinois' rules dealing with SMB events that are currently part of Illinois' approved SIP. These rules do not require permits to include "guidance for what sort of malfunctions or startup events might justify exceedances." The rules lay out a process for addressing startup and malfunction and breakdown events that involves two steps. The first step consists of seeking authorization by means of a permit application to prospectively make a claim related to malfunction/breakdown or startup.<sup>26</sup> This step occurs during permitting. However, the second step of Illinois' process for operation with excess emissions during malfunction or breakdown or startup occurs outside of a permit. This step addresses the showing that must be made when such an event actually occurs to make a viable claim of malfunction/breakdown or startup.<sup>27</sup> The second step provides the case-by-case determinations for particular events that this comment effectively seeks to have included in the permit.

The underlying concern expressed by this comment is whether violations of emission limits that might occur at Joppa would be "justified." Consistent with the relevant rules, this is a matter that is appropriately concretely addressed in the context of potential enforcement for actual violations, not speculatively in the context of possible violations. In this regard, the additional provisions in the CAAPP permit that are generally requested by this comment are in direct contradiction to earlier comments by this commenter. The earlier comments argued that no exceedances of state emission standards during SSM should be condoned by the CAAPP permit for the Joppa Station. In this comment, further specificity is now requested on exceedances during SSM that might be justified. Comments have requested that the CAAPP permits explicitly provide that they do not preclude enforcement by parties other than the State of Illinois. This comment now requests that provisions be included in the permit that would act to impede the success of such enforcement. However, it would be

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<sup>26</sup> This first step enables conditions to be placed in permits that require source- or unit-specific recordkeeping and reporting relating to malfunction/breakdown and startup events and other requirements related to such events.

<sup>27</sup> For malfunction/breakdown, this showing consists of a demonstration that operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. There are two elements to the required showing, "need" and "function". For startup, it shall consist of a demonstration that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such events. To a certain extent, this showing may be evaluated on past practice. However, this showing is also prospective, like the showing for malfunction/breakdown, as it relates to future events, which and whose exact circumstances are not known, and which, in fact, may not routinely occur. Again, the malfunction/breakdown or startup authorization that would be provided in the Revised Permit would not preclude appropriate enforcement for violations of state emission standards during such events.

improper to include such provisions in the permit as it would be contrary to the provisions of the relevant state rules addressing emission exceedances during startups and malfunction events. It would also potentially hinder appropriate enforcement by the State of Illinois for such exceedances.

The changes requested by this comment would also require the Illinois EPA to address matters that as a practical matter are beyond the scope of permitting. If as a purely theoretical matter the Illinois EPA were to attempt to address potential violations of emission standards due to startups or malfunction events in permitting, the Illinois EPA would at a minimum need to speculate on the potential range and nature of those violations.<sup>28</sup> Given that malfunctions and breakdowns are not planned and the circumstances that cause exceedance during startup may also be unplanned, such effort would be unlikely to meaningfully address such events. They certainly would be far less effective than addressing such events in the context of potential enforcement.

This comment also does not identify a deficiency in the conditions of the permit that deal with SMB as compared to the relevant provisions of Illinois' current SIP that address SMB. As related to use of the term "minimize," the discussion in the Statement of Basis referred to by this comment addressed certain planned changes to the wording of various permit conditions related to control measures for material handling and processing operations. The discussion does not address conditions of the permit that deal with SMB and the provisions in Illinois' current rules for SMB.<sup>29</sup> For the proposed changes to the conditions that were being addressed, it was appropriate that the term "minimize" be removed since the usage of this term did not have a basis in regulations.<sup>30</sup>

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<sup>28</sup> To fully address in a permit whether future exceedance might be justified, the Illinois EPA would also need to speculate on the circumstances in which such violations would occur. It would also need to consider possible actions or lapses by the source that contributed to the particular violations or the magnitude of the violations. The Illinois EPA would need to consider how violations should be approached if there were previous similar violations or a pattern of violation and how such similar violations or pattern of violations should be identified. This would require consideration of the actions that the source might or might not have taken in response to earlier violations. Even then, the Illinois EPA could not address future improvements in technology during the term of the permit that might be relevant to reducing the magnitude of excess emissions or eliminating exceedances entirely.

<sup>29</sup> The discussion in the Statement of Basis referred to by this comment addresses Conditions 7.2.6(a)(i), 7.3.6(a)(i) and 7.4.6(a)(i). These conditions address the measures that are used for control of particulate matter emissions from coal handling operations, coal processing operations and fly ash handling operations. These conditions do not involve SMB events.

<sup>30</sup> The sentence in the Statement of Basis referred to by this comment stated that "the word 'minimize' is ambiguous and usually lack regulatory meaning." Upon reflection, this statement was improper as it made a generalization and flawed as that generalization was not correct. The sentence should have simply stated that in the specific conditions that were being addressed, the term "minimize" was being removed as its meaning was potentially unclear, especially as it did not have a regulatory basis. In this regard, "minimize" can mean "to reduce to the smallest amount possible" or simply "to reduce." In the subject conditions, the second meaning was intended (i.e., control measures for the units that were being addressed must be implemented as necessary to reduce emissions to provide for compliance). However, in the absence of a

However, this does not show that the term "minimize" is not appropriate when addressing startup and malfunction and breakdown events. In this regard, the relevant rules, 35 IAC 201.261 and 201.262, specifically provide that sources must take actions to "minimize" startup emissions and excess emissions from malfunction and breakdown events. Given the subject addressed by these rules, it would not be inappropriate to construe the term minimize to mean that a source must take all reasonable efforts to reduce excess emissions. Likewise, when addressing malfunctions and breakdowns it is appropriate to use the term "essential services" as this term is used in 35 IAC 201.262. This term does not merit further elaboration in the permit. The term is readily understood as a service that is important and cannot be provided by another party or at a later time.<sup>31</sup> Disagreement about its meaning should be considered in the context of specific events and the potential need for enforcement.

2. Permit Condition: 7.1.4(b)

Comment:

Illinois EPA must revise Condition 7.1.4(b) of the Draft Permit, which threatens a violation of the SO<sub>2</sub> National Ambient Air Quality Standards (NAAQS) for the Massac County area. To ensure compliance with the NAAQS, the limits for the Joppa plant's SO<sub>2</sub> emissions must be set at or about the plant's actual SO<sub>2</sub> emissions that served as part of the basis for the area's attainment designation.

The Title V program is in part intended to "enhance compliance with the requirements of the [Clean Air] Act," 57 FR 32250, 57 FR 32250 (Jul. 21, 1992), which means that the Joppa Plant's Title V permit must ensure that the plant does not violate the CAA, including the 1-hour SO<sub>2</sub> NAAQS. Pursuant to Section 109 of the CAA, USEPA established an hourly NAAQS for SO<sub>2</sub> in 2010. See 40 CFR 50.5. The 1-hour SO<sub>2</sub> NAAQS takes the form of a three-year average of the 99th-percentile of the annual distribution of daily maximum 1-hour SO<sub>2</sub> concentrations, which cannot exceed 75 ppb.<sup>32</sup>

Section 107(d) of the CAA requires USEPA to determine which areas across the country are not attaining a NAAQS. In 2016, USEPA concluded that Massac County is an "unclassifiable/attainment area," which is "an area which [US]EPA has determined to have sufficient evidence to find either is attaining or is likely to be

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regulatory context, the term minimize could have been incorrectly understood to have the first meaning. This clearly could have not been intended in these conditions as the CAAPP does not authorize requirements that act simply to require that emission be reduced to the greatest extent possible independent of any applicable regulatory requirement that applies to those emissions. However, changes to the subject conditions were planned to avoid potential misunderstanding.

<sup>31</sup> 35 IAC 201.262 does indicate that "continued operations solely for the economic benefit of the owner or operator" shall not be considered providing essential service.

<sup>32</sup> Refer to Memorandum from Tyler Fox, Leader, Air Quality Modeling Group, C439-01 to Regional Air Division Directors regarding Applicability of Appendix W Modeling Guidance for the 1-hour SO<sub>2</sub> National Ambient Air Quality Standard at 1 (August 23, 2010).

Available at:

[https://www3.epa.gov/scram001/guidance/clarification/ClarificationMemo\\_AppendixW\\_Hourly-SO2-NAAQS\\_FINAL\\_08-23-2010.pdf](https://www3.epa.gov/scram001/guidance/clarification/ClarificationMemo_AppendixW_Hourly-SO2-NAAQS_FINAL_08-23-2010.pdf).

attaining the NAAQS," (Final USEPA TSD).<sup>33</sup> USEPA based this decision on Illinois EPA modeling that used the actual, as opposed to the allowable, SO<sub>2</sub> emission rates for six sources in the county, including the Joppa plant, from 2012 through 2014 (USEPA Intended Designations TSD).<sup>34</sup> Of the six sources, Joppa was the second-largest source of SO<sub>2</sub> emissions. This modeling concluded that the predicted 99th percentile one-hour average concentration of SO<sub>2</sub> within the modeling area is 64.2 ppb, below the NAAQS limit of 75 ppb. Final USEPA TSD at 14-15.

The amount of SO<sub>2</sub> emissions that would be allowed by Draft Condition 7.1.4(b) is several orders of magnitude larger than the plant's actual emissions on which the attainment designation was premised. According to Illinois EPA's data, the Joppa Plant emitted roughly 17,000, 16,560, and 18,230 tons of SO<sub>2</sub> in 2012, 2013 and 2014, respectively. USEPA Intended Designations TSD at 25, Table 7. However, Draft Condition 7.1.4(b) would require that "[t]he total emissions of SO<sub>2</sub> from the affected boilers combined shall not exceed 36,865 lb/hour." This would equate to 161,000 tons of SO<sub>2</sub> each year.<sup>35</sup> In other words, the draft permit would allow the Joppa plant to emit roughly nine times more SO<sub>2</sub> than the actual emissions from the plant that served as the basis for USEPA's attainment designation. During USEPA's attainment designation proceeding, Sierra Club submitted modeling indicating that if the Joppa plant actually emitted as much SO<sub>2</sub> as it was then authorized to emit, the entire region would be thrown into nonattainment with the NAAQS. Indeed, even looking at the actual emissions in 2012 through 2014, Massac County was already close to the permitted NAAQS limit. As such, any significant increases in SO<sub>2</sub> emissions from Joppa plant would likely cause an exceedance of the NAAQS, in violation of the CAA.

Draft Condition 7.1.4(b) must therefore be revised. Because Massac County's attainment designation was premised on a finding that the actual SO<sub>2</sub> emissions from the Joppa plant and the other five sources were not causing an exceedance of the NAAQS, the permit for the Joppa Plant must limit SO<sub>2</sub> emissions to the levels of actual emissions used in Illinois EPA's modeling. Alternatively, if Illinois EPA demonstrates, through proper modeling, an alternative amount of SO<sub>2</sub> that the Joppa plant can emit without causing an exceedance of the NAAQS, Illinois EPA may appropriately limit the SO<sub>2</sub> emissions of the plant to a level no greater than that amount.

**Response:**

**This comment does not show that Condition 7.1.4(b) is not appropriate or that an additional condition must be included in**

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<sup>33</sup> USEPA, *Final Technical Support Document: Illinois Area Designations for the 2010 SO<sub>2</sub> Primary National Ambient Air Quality Standard*, at 2, Table 1, 5 ("Final USEPA TSD").

Available at [https://www.epa.gov/sites/production/files/2016-07/documents/r5\\_il\\_final\\_designation\\_tsd\\_06302016.pdf](https://www.epa.gov/sites/production/files/2016-07/documents/r5_il_final_designation_tsd_06302016.pdf).

<sup>34</sup> USEPA, *Technical Support Document: Illinois Area Designations for the 2010 SO<sub>2</sub> Primary National Ambient Air Quality Standard* at 25 (Feb. 16, 2016) ("USEPA Intended Designations TSD"). Available at <https://www.epa.gov/sites/production/files/2016-03/documents/il-epa-tds-r2.pdf>.

<sup>35</sup> 36,865 pounds/hour x 8760 hours/year ÷ 2,000 pounds/ton = 161,470 tons/year.

the permit to further limit the SO<sub>2</sub> emissions of the Joppa Station. In this regard, this comment does not show that the 1-hour NAAQS for SO<sub>2</sub> is actually violated in Massac County.<sup>36</sup> The comment addresses what might occur if the Joppa Station operated at its allowable SO<sub>2</sub> emission rate. However, as acknowledged by this comment, the actual SO<sub>2</sub> emissions of the Joppa station have consistently been a fraction of its allowable SO<sub>2</sub> emissions. More fundamentally, it is not clear what legal authority could be asserted to justify the type of emissions limit rationalized by the comment. Title V is merely a procedural statute, whose legal framework was created for licensing purposes (i.e., assembling all applicable requirements of a major source into a single permitting document). Other programs under the Clean Air Act, such as NSPS, NESHAP or the SIP implementation process, are at the center of creating substantive emissions standards. The chief objective of the Title V program is to ensure that these standards, including the SIP requirements administered by the States, are recited as applicable requirements in source-specific permits.<sup>37</sup> To the extent that this comment requests that an emissions limit for the SO<sub>2</sub> emissions of the Joppa Station be crafted to ensure that the 1-hour NAAQS for SO<sub>2</sub> would not be violated in Massac County, such an action could only be undertaken through the SIP process rather than raised collaterally in a Title V proceeding. Indeed, USEPA

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<sup>36</sup> USEPA's recent designation of Massac County as attainment/unclassifiable for the 1-hour NAAQS for SO<sub>2</sub> was premised upon the finding that the 1-hour NAAQS for SO<sub>2</sub> was not being exceeded. And as observed by this comment, the USEPA's recent designation of Massac County as attainment/unclassifiable for the 1-hour NAAQS for SO<sub>2</sub> was, in fact, based on a modeling analysis of the actual impacts of sources on hourly SO<sub>2</sub> air quality. USEPA based this decision on historical agency guidance, which holds that because attainment designations are based on dispersion modeling, rather than actual pollutant concentrations, it is appropriate for such modeling to be conducted using actual emission rates. The issue concerning the suitability of such an approach was squarely addressed by USEPA in that proceeding.

<sup>37</sup> The USEPA acknowledged the limits of the Title V program to address NAAQS-related issues in its original rulemaking for Part 70. In general, USEPA recognized that the NAAQSs are to be addressed indirectly through the requirements adopted in SIPs and not treated as requirements that are directly applicable to sources pursuant to Title V permits. USEPA observed:

Under the Act, NAAQS implementation is a requirement imposed on States in the SIP; it is not imposed directly on a source. In its final rule, EPA clarifies that the NAAQS and the increment and visibility requirements under part C of title I of the Act are applicable requirements for temporary sources only. 57 FR 32276, July 21, 1992.

(See, USEPA, Final Rule, Operating Permit Program, 57 FR 32250, July 21, 1992). This approach to NAAQS is also reflected in the definition of "applicable requirement" in 40 CFR 70.2:

40 CFR 70.2 Definitions:... *Applicable requirement* means all of the following as they apply to emissions units in a part 70 source (including requirements that have been promulgated or approved by EPA through rulemaking at the time of issuance but have future-effective compliance dates):... (12) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act.

already has a process in place to ensure areas like Massac County are evaluated regularly as to their attainment status. (See 40 CFR 51.1205(b))

It can be noted that if future action were needed to protect SO<sub>2</sub> air quality in Massac County, this would not necessarily be accomplished by simply imposing a new limit for SO<sub>2</sub> emissions on the Joppa Station through Illinois' SIP. As the generating station is not the only source affecting SO<sub>2</sub> air quality in the region,<sup>38</sup> any regulatory approach would need to consider the implications of other contributing emission sources.

3. Permit Condition: 7.1.6(a)(i)

a. Comment:

Condition 7.1.6(a)(i) in the Draft Permit does not require Electric Energy to take preventative measures in response to combustion evaluations. The Draft Permit instead requires only corrective measures, and leaves the decision to Electric Energy as to whether to make adjustments in response to the evaluations. The proactive approach of taking preventative measures would eliminate problems with the boilers before they start. Otherwise, if foreseeable problems do occur, Electric Energy would have the discretion to merely react to them after the fact. It would be wholly inappropriate for Electric Energy to continue to operate the boilers if Electric Energy had knowledge that there was a need for preventative maintenance but did not perform that maintenance.

Similar language has been used in previous permits, *See, e.g.* Waukegan Responsiveness Summary at 55, In its responsiveness summary for the Waukegan permit, Illinois EPA stated that Citizens Groups' comments on this condition "assume that preventative measures must be implemented as part of any combustion evaluation." Illinois EPA's Responsiveness Summary for the Significant Modification of the CAAPP Permit issued to Midwest Generation for the Waukegan Generating Station, issued June 16, 2016 ("Waukegan Responsiveness Summary") at 55. Citizens Groups' assumption is wholly reasonable; indeed, if a combustion evaluation reveals any problems with the boilers, it would be imprudent to *not* implement responsiveness measures. The Responsiveness Summary for Waukegan goes on to say that "in actual practice, combustion evaluations *may* not identify any preventative measures that *need* to be taken." *Id.* (emphasis added). Thus, the Waukegan Responsiveness Summary makes clear that combustion evaluations will, at times, identify preventative measures that must be taken. When this happens, the permittee must take these preventative measures, and Condition 7.1.6(a)(i) of the Draft Permit should be revised to clearly state as much.

These deficiencies parallel those seen in the SSM provisions. If Illinois EPA does not require that Electric Energy take steps to prevent future violations of the permit limits, particularly when it is made aware of issues that could cause such violations, then

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<sup>38</sup> One of the other sources that contributes to SO<sub>2</sub> air quality in Massac County is the Tennessee Valley Authority's Shawnee Power Station in Kentucky.

the limits themselves become less meaningful. If a plant has to conduct a preventative analysis and take preventative steps at appropriate junctures, it will be less likely to violate its permit over the long run, which is precisely the purpose of the Title V permitting system. Thus, Illinois EPA should reinstate this obligation not just in the context of SSM events, but also where combustion evaluations reveal the need for preventative measures. We further request that these revisions in procedure be reflected in the recordkeeping requirement that pertains to this provision, Condition 7.1.9(a)(vi).

**Response:**

This comment did not show that the planned revisions to Condition 7.1.6(a)(i) were not appropriate. If anything, as this comment suggests that required combustion evaluations might identify "problems with a boiler," this comment confirms flaws with the language that was in this condition. What the comment does not consider, and the Illinois EPA did not appropriately consider when originally developing this condition, is that combustion evaluations, by their nature, are preventative. This is because coal-fired utility boilers routinely operate well within this standard. Combustion evaluations should not be expected to reveal an exceedance of the state CO emission standard at 35 IAC 216.121. The required combustion evaluations serve both to confirm compliance with the state CO emission standard at 35 IAC 216.121 and to assure compliance with this standard.

Accordingly, as this condition provided that combustion evaluations include "...any adjustments and preventative and corrective measures undertaken..." it was not clear whether a distinction was intended between "preventative measures" and "corrective measures." If so, what was the distinction? In addition, as part of the settlement of the appeal of the initial CAAPP permit, it was recognized that any such distinction would not be appropriate or useful in the context of combustion evaluations. In the context of these combustion evaluations, the two classes of preventative actions that the permit contemplates that the source may take are adjustments and "other measures." In the permit, these other measures may be appropriately referred to as "corrective measures."<sup>39</sup>

While this comment suggests that there is a difference between "preventative measures" and "corrective measures" for combustion evaluations, it does not show what the difference might be. That is, if a combustion evaluation reveals "problems" for a boiler, the comment does not explain what the differences in implications or consequences would be for implementation of "preventative measures" compared to implementation of "corrective actions." Certainly, such differences would exist if the "problem" involved a deviation from the CO standard, but then this would then be

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<sup>39</sup> Adjustments involve changes to how equipment is operated. Adjustments include changes to the standard settings for burners, dampers and other components of the combustion systems on a boiler. Adjustments also include changes to the settings in the automated combustion management system on a boiler. Changes to operational monitoring systems that accompany calibrations would also be adjustments.

addressed by the required deviation report.<sup>40</sup> Otherwise, in the context of the combustion evaluations required by Condition 7.6(a), it is not apparent why a distinction between preventative measures and corrective measures is meaningful. Accordingly, this distinction is not present in the revised permit that has been issued.

This comment also does not show that, in addition to requiring that the source conduct periodic combustion evaluations for boilers that include measurements of CO concentrations at the start and conclusion of the evaluations, the permit should specify that adjustments or other measures must be made for the combustion systems of the boilers as part of these evaluations. The explicit requirement for measurements of CO concentration serves to address compliance with 35 IAC 216.121. Beyond this, the permit simply recognizes that these combustion evaluations will likely include adjustments and other measures to maintain good combustion. The permit does not excuse the source from taking any preventative actions that are necessary to maintain compliance. As observed by this comment, those actions would extend to actions that the source should have taken proactively to maintain compliance. However, the permit need not state that the source must take such measures as it is implicit that the source must take such actions so that the boilers routinely operate in compliance with 35 IAC 216.121.

**b. Comment:**

In discussing changes to Condition 7.1.6(a), Illinois EPA has also explained that such language was used because the applicant was "constrained by the bounds of technical feasibility." 2015 Waukegan Statement of Basis at 17. However, Illinois EPA never explained why these actions were not technically feasible.

**Response:**

As was explained in the 2015 Waukegan Statement of Basis, revisions to the CAAPP permit for the Waukegan Station were planned to make clear that Condition 7.1.6(a) only required diagnostic measurements of CO, not formal emission testing. Revisions were also planned to make clear that adjustments or other measures were not mandatory as part of a combustion evaluation. These revisions were planned as part of the settlement of the initial CAAPP permit for the Waukegan Station appeal as they would respond to the relevant concerns for Condition 7.1.6(a) raised by Midwest Generation in the appeal.

In fact, the 2015 Waukegan Statement of Basis indicates that

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<sup>40</sup> Pursuant to Section 39.5(7)(f)(ii) of the Act, reports for deviations must include information for "any corrective actions or preventative measures taken." However, as combustion evaluations are not "deviations," the terminology used for reporting of deviations is not appropriate for routine combustion evaluations. Moreover, in the unlikely event that a combustion evaluation would show a deviation, a "deviation report" would be required for that deviation. In that report, the source would need to describe "the corrective actions or preventative measures taken." In the context of such a report, a distinction can be made between the "corrective actions" taken to respond to or correct the deviation and the "preventative measures" taken to prevent or reduce the likelihood or severity of similar deviations in the future.

Midwest Generation represented in its appeal that its ability to make adjustments and other measures as a part of a combustion evaluation was constrained by "technical feasibility." (In this regard, this comment misrepresents the 2015 Waukegan Statement of Basis as the comment attributes this finding to the Illinois EPA.<sup>41</sup>) Instead of relating these concerns about Condition 7.1.6(a) to technical feasibility, it would have been clearer if these concerns had been related to the impropriety of mandating that certain actions be taken if those actions would not be necessary or appropriate in all circumstances.

4. Permit Condition: 7.1.7(a) (iii)

a. Comment:

Under Condition 7.1.7(a)(iii) of the Draft Permit, PM stack tests must be done (1) within 15 months of the preceding PM stack test if, based on that stack test, the compliance margin for PM is less than 20 percent; (2) within 27 months of the preceding PM stack test if, based on that stack test, the compliance margin for PM is between 20 and 40 percent; and (3) within 39 months of the preceding PM stack test if, based on that stack test, the compliance margin for PM measurement was greater than 40 percent.

The length of time between those drawn-out stack tests renders them insufficient to demonstrate compliance with PM limits. As set forth in Condition 7.1.4(a) of the Draft Permit, PM limits for the Powerton boilers are 1-hour limits over a three-hour averaging period: 0.19 lb/MMBtu in any single hour for each of the affected boilers. Stack tests that take place up to 39 months apart simply cannot ensure that, during every hour the boilers are operational, they are complying with the limit. See *Sierra Club v. EPA*, 536

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<sup>41</sup> With respect to the planned changes to Condition 7.1.6 and "technical feasibility," the 2015 Waukegan Statement of Basis stated,

Midwest Generation, LLC appealed the condition because the requirement for combustion evaluation appeared to require formalized emissions testing and its ability to make "adjustments and preventative and corrective measures" was constrained by the bounds of technical feasibility. In settlement negotiations, the Illinois EPA acknowledged that the original intent of this condition was not to require formal diagnostic testing, which is an engineering evaluation of systems to gather data beyond the standard operational measurements. Rather, the intent was to obtain quantitative information from the standard operational measurements on a continuous or periodic basis and thus serve as an assessment for the functioning of combustion systems in a boiler. The permit would be revised to clarify this aspect of the combustion evaluation.

The permit would also be revised to clarify that "adjustments and preventative and corrective measures" are not a compulsory requirement for each combustion evaluation. The original intent was to ensure that adjustments or other corrective measures would occur if, depending upon the findings of a given evaluation, such changes are needed to restore combustion efficiency. The revised permit would now eliminate the ambiguity of the earlier condition by providing that combustion evaluations include "any adjustments and/or corrective measures" undertaken to maintain combustion efficiency. The source is still required, consistent with the existing recordkeeping requirements of the CAAPP permit, to maintain records of the adjustments and corrective measures resulting from the combustion evaluation. 2015 Waukegan Statement of Basis, at 17 and 18

F.3d 673, 674-75 (D.C. Cir. 2008) (emphasis added) (noting that annual monitoring would not ensure compliance with a daily emission limit).

The inadequacy of the stack tests to assure compliance is not cured by the remainder of the CAM plan for PM in the Draft Permit because, as discussed in detail above, that CAM plan is itself inadequate to ensure compliance with PM limits. As such, because the Draft Permit does not contain sufficient monitoring and testing requirements to assure compliance with the PM emission limits, it falls short of Title V's requirements. See *Sierra Club*, 536 F.3d at 674-75 ("a monitoring requirement insufficient 'to assure compliance' with emission limits has no place in a permit unless and until it is supplemented by more rigorous standards."); see also *NRDC v. EPA*, 194 F.3d at 136; *In the Matter of Midwest Generation, LCC, Waukegan Generating Station*, 2005 EPA CAA Title V LEXIS 14 at \*44-45; 40 CFR 70.6(a)(3)(i)(B); 40 CFR 70.6(c)(1). The Draft Permit should be revised to require PM CEMS, instead of infrequent PM stack tests paired with inadequate parametric monitoring, to demonstrate compliance with the one-hour PM emissions limits at the Plant.

**Response:**

As observed by this comment, the PM testing that is required for the boilers by Condition 7.1.7(a)(iii) is not relied upon to address ongoing, day-to-day compliance with the applicable state PM emission standards. Rather, the permit relies on the CAM plans as the means to address ongoing compliance between testing. In this regard, as explained by USEPA when adopting 40 CFR Part 64,

[t]he CAM approach builds on the premise that if an emissions unit is proven to be capable of achieving compliance as documented by a compliance or performance test and is thereafter operated under the conditions anticipated and if the control equipment is properly operated and maintained, then there will be a reasonable assurance that the emission unit will remain in compliance. In most cases, this relationship can be shown to exist through results from the performance testing without additional site-specific correlation of operational indicators with actual emission values. The CAM approach builds on this fundamental premise of the regulatory structure.

62 FR 54900, 54926, Oct. 22, 1997

While this comment claims that there are deficiencies in the CAM plans for the coal boilers, the CAM plans addressed by the issued permit are not deficient. The specific comments that have been made on these CAM plans have been appropriately considered and addressed by the Illinois EPA. As such, this comment does not show that PM CEMS are necessary on the boilers to address compliance with the applicable state standards.

It should also be noted that, other than to observe that the required PM testing does not serve to address ongoing compliance, this comment does not actually comment on the "tiered approach" for such testing that is contained in the permit, other than to

suggest that it is not a substitute for appropriate Periodic Monitoring. Tiered approaches to emission testing are used in a number of USEPA regulations. They act to reasonably reduce the burden associated with testing for sources that comply with an applicable emission standard by a significant margin of compliance. Tiered approaches also enable a regulatory authority to focus its resources on emission units whose compliance is less clear. A tiered approach to PM testing, as contained in Condition 7.1.7(a) (iii), is appropriate for the coal boilers at Joppa.<sup>42, 43</sup>

**b. Comment:**

Furthermore, Condition 7.1.7(b)(i) states that the plant operator must "operate each affected boiler at maximum normal operating load conditions during each performance test." The condition then notes that "maximum normal operating load" should "be representative of unit specific normal operations." This condition goes a long way toward ensuring that the tests take place at times that capture the normal operation of the plant, but not quite far enough. Specifically, we are concerned that it is unnecessarily vague, such that it might inadvertently allow stack tests to take place that do not necessarily capture conditions at the plant's peak operation. To ensure that maximum PM emissions are captured in each test, Illinois EPA should further define "maximum normal operating load" as the highest level of sustained operation of the plant (i.e. for more than twelve hours) in the period since the last stack test.

**Response:**

The concerns expressed by this comment have been addressed in the issued permit as Condition 7.1.7(b) (i) uses the terminology of the MATS rule to define the operating load at which the coal boilers must be operated during periodic emission testing.

Condition 7.1.7(b) (i) in the issued permit is fully consistent with the principle expressed in the USEPA Stack Test Guidance that, to the fullest extent possible, emission testing should be conducted under conditions that are representative of those that pose the greatest challenge to the ability of a unit to meet applicable limits.<sup>44</sup> This guidance does not state that emission testing must be conducted at the maximum load at which the tested

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<sup>42</sup> For the coal boilers at Joppa, the compliance margins shown in historical PM tests were over 40 percent so that it is reasonable to expect that testing would be needed every 39 months.

<sup>43</sup> Another approach to tiered testing is one that increases the interval between required tests after a number of tests have been conducted that all show emissions are below the applicable regulatory limit or a set value below that limit.

<sup>44</sup> The USEPA Stack Test Guidance is not directly applicable to the emission testing addressed by this comment. As explained in this guidance,

...for the purpose of this guidance, stack testing is being more narrowly defined as - Any performance testing conducted for the purposes of determining and demonstrating compliance with applicable standards of 40 CFR Parts 60, 61 and 63...

USEPA Stack Testing Guidance, p. 3

emission unit would subsequently ever be operated, as implied by this comment.

It is also noteworthy that, as already discussed, recent PM testing of other coal-fired utility boilers in Illinois has shown compliance with the applicable state PM standards with substantial margins of compliance. The results of future testing for the Joppa Station should likewise not be expected to be close to the applicable standards.<sup>45</sup> Moreover, if this is the case or if boilers are operated in such a way that further emission testing is warranted to confirm compliance with the state PM standard, the Illinois EPA is authorized to require that Electric Energy have such testing conducted.<sup>46</sup>

5. Permit Condition: 7.1.8(a)

Comment:

The draft permit lacks monitoring sufficient to demonstrate compliance with the opacity limits for the coal-fired boilers. Conditions 7.1.4(c) and 5.2.2(b) include requirements, in accordance with 35 IAC 212.123(a), which limit opacity emissions from all six boilers to 30 percent, as required by 35 IAC 212.123(a), which states: "No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit..". However, the draft permit authorizes the determination of compliance with the applicable opacity limit from a stack that is shared by two boilers.

During testing to demonstrate compliance with PM emissions, the permit requires that PM be determined separately from each boiler. Condition 7.1.7(b)(ii) requires that measurements of PM emissions

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<sup>45</sup> The USEPA Stack Testing Guidance does acknowledge that a permitting authority, presumably in appropriate circumstances, may restrict the operation of an emission unit based on the conditions under which emission testing was conducted.

This guidance does not affect the ability of delegated agencies to prohibit a facility from operating at levels of capacity different from the level used during the stack test, or to restrict production to reflect conditions equivalent to those present during the stack test.  
USEPA's Stack Testing Guidance, p. 16.

At the same time, the USEPA Stack Testing Guidance also indicates that the decision whether further testing should occur is one for which the permitting agency must make, presumably based on its experience and judgment,

...the facility is not required automatically to retest if the facility's operating conditions subsequently vary from those in place during the performance test. The delegated agency must determine whether retesting is warranted; however, in both instances, the facility is responsible for demonstrating to the satisfaction of the delegated agency that the facility is able to continuously comply with the emissions limits when operating under expected operating conditions, taking into consideration the factors discussed above ...  
USEPA Stack Testing Guidance, p. 16.

<sup>46</sup> Specific provision for such testing "upon request" by the Illinois EPA is provided for by Condition 7.1.7(a)(iv).

are to be taken at locations in the ductwork "of an individual boiler". This is appropriate since the applicable PM limitations apply to "each affected boiler".

In contrast, the draft permit allows the permittee to determine compliance with opacity emissions at a joint stack. The draft permit relies on installed continuous opacity monitors to monitor opacity emissions from the boilers. However, the continuous opacity monitors are installed in ductwork that is shared by two boilers. Condition 7.1.8(a) states that, "For this purpose, 'shared' monitoring systems may be operated at locations in the stacks that are common to pairs of affected boilers." Condition 7.1.8(a)(ii) further maintains that this methodology will be the "primary basis for reporting exceedances" of the applicable opacity limitations. Since the plume traveling through ductwork shared by two boilers consists of a plume that contains emissions from two separate boilers, the measurement of opacity read by the continuous opacity monitors is the cumulative opacity of emissions from the two separate boilers.

This methodology cannot provide an accurate reading for each boiler consistent with the applicable requirements that apply to each boiler to determine whether each individual boiler is in compliance with the applicable opacity requirements. EPA must, therefore, provide a justification that describes how the current methodology yields data that assures compliance with the applicable requirements for each individual boiler, as required by 40 CFR 70.6(a)(3). In the alternative, Illinois EPA may state in the permit or permit record that an opacity violation at any joint stack constitutes a violation by both boilers sharing that stack.

**Response:**

As the opacity of emissions from the coal boilers at Joppa is monitored in stacks shared by pairs of boilers, the opacity monitoring provides data that is representative of opacity for the pairs of boilers on a combined or shared basis. That is to say, opacity monitoring in a shared stack necessarily contemplates that opacity from both boilers is assessed together, not individually. As suggested by the comment, this could result in a monitored opacity exceedance implicating both boilers. The fact that the opacity is not monitored individually for each boiler would not shield the source from the consequences of such a scenario.

At the same time, one or the other boiler could be the source of such an exceedance so that it would be inappropriate to treat or presume both boilers as co-responsible. The data collected by the required operational monitoring systems, including monitoring of the individual ESP for each boiler, records of maintenance activities, or other credible evidence could demonstrate that the responsibility for the exceedances should be assigned to a particular boiler. Though the boilers' opacity emissions are being monitored together, other credible evidence should inform any compliance assessment.<sup>47, 48</sup>

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<sup>47</sup> This further information about the operation of the boilers and their ESPs may be relevant to enable the appropriate measures for corrective action to be pursued. If

By way of further background, the opacity monitoring systems on the coal boilers at Joppa had to be installed in the stacks because of the configuration of the ductwork between the ESPs for the boilers and the shared stacks. There are not appropriate locations in this ductwork at which opacity monitoring could properly be conducted for the individual boilers. If an opacity monitoring system is to provide accurate and reliable measurements, the system must be located on a straight section of ductwork. The straight section of ductwork must be long enough that gas flow at the point at which monitoring is conducted is not affected by upstream or downstream bends, widenings or contractions in the ductwork that act to disrupt laminar flow of gas in the ductwork.<sup>49</sup> For the coal boilers at Joppa, the ductwork between the individual ESPs on the boilers and the stacks is short and has several sharp bends. This is because the ESPs were not part of the original design of the boilers and were added many years later. When the ESPs were added, they were installed in the space formerly occupied by the less efficient mechanical collectors and connected into the existing stacks.<sup>50</sup> These types of circumstances are present for many older coal-fired boilers, which have shared stacks with the opacity monitoring system installed in that stack.<sup>51</sup>

It should also be noted that, contrary to what is represented in this comment, the opacity of emissions is not additive, with the opacity of two boilers being twice the opacity of one boiler. Rather opacity is an indirect measure of the concentration of particulate matter in the flue gas or exhaust from a unit. As the

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both boilers contribute to opacity exceedances, it would be reasonable for both boilers to be considered. However, if one boiler is clearly responsible for the exceedances, that boiler would reasonably be the focus of attention.

<sup>48</sup> For the reasons described, the Illinois EPA must decline the comment's invitation to create an interpretative rule of the permit's operational monitoring approach. Although the response to this comment has discussed the logical implications pertaining to opacity monitoring by pairs of boilers in a shared stack arrangement, it is not appropriate in this instance to create an interpretative rule that would foreclose the consideration of credible evidence. Further, the characterization of what might constitute "violations" resulting from the permit's opacity monitoring is perhaps best left to the enforcement process.

<sup>49</sup> The criteria that must be met when selecting the location of an opacity monitoring system in the ductwork of an emission unit or units are the same as those that apply to the location of the sampling ports used for testing of particulate matter emissions, as addressed by USEPA Reference Method 1.

<sup>50</sup> If opacity monitoring for a coal-fired utility boiler does not need to be conducted in the ductwork because the boiler's emissions are controlled by a scrubber, there are also advantages from opacity monitoring in the stack. Opacity is monitored at the location at which measurements of emissions are conducted during PM testing. The system is near other emission monitoring systems on the boiler facilitating proper calibrations and maintenance of the system by plant personnel. The opacity measured by the system also better mirrors the opacity of the exhaust from the stack and opacity as would be determined by a certified observer in accordance with USEPA Method 9.

<sup>51</sup> Newer boilers may also have shared stacks. In this regard, in the NSPS rules, 40 CFR 60.13(g), USEPA recognizes that the flue gases from subject emission units may be combined. The rules provide that a continuous monitoring system required by the NSPS can be installed on the combined flue gas stream when the emissions of the subject units are subject to the same NSPS limit.

overall volume of flue gas increases when the flue gas from two boilers is combined, the concentration of particulate in that larger volume of flue gas and the opacity of the emissions does not necessarily change.

In addition, the initial CAAPP permit did not require that testing of PM emissions be conducted at the individual boilers. Rather, Condition 7.1.7(b) (ii) provided that as an alternative to conducting such measurements in the shared stack, measurements may be conducted at an appropriate location in the ductwork of individual boilers.<sup>52</sup> Based on a closer examination of the configuration of the ductwork of the boilers conducted in response to this comment, this provision for an alternative location for measurements of PM is not carried over into the revised permit that has now been issued. As there is not a suitable location for monitoring opacity in the ductwork of the individual boilers, there is also not a suitable location for conducting measurements of PM emissions in the ductwork of the individual boilers.

In this regard, the circumstances of the boilers for PM emissions are similar to those for opacity. As the PM emissions of the boilers are tested in stacks shared by pairs of boilers, this testing provides data for the PM emission rates in pounds per million Btu of the pair of boilers. However, given that the boilers and their particulate control systems are similar, it is unreasonable to expect that the results of testing of the boilers would ever not be representative of the PM emission rates of both boilers served by a shared stack. As related to the operation of pairs of boilers during PM emission testing, Condition 7.1.7(b) (ii) provides that "...the boilers and their associated controls shall be operated in a similar manner while measurements are being performed, so that the results typify both boilers."<sup>53</sup> Testing for pairs of boilers simply addresses the normal way in which the boilers are operated. Such testing is also necessary to provide continuing support for the CAM plans for the PM emissions of the boilers.

6. Permit Condition: 7.1.9(h) (ii) (D)

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<sup>52</sup> As related to the PM emission testing conducted for the boilers, Condition 7.1.7(b) (ii) in the original permit further provided that:

If both boilers are operating, the boilers and their associated controls shall be operated in a similar manner while measurements are being performed, so that the results typify both boilers. If emission unit operation differs significantly, the Permittee may have to perform further measurements or separate measurements for each boiler at the request of the Illinois EPA, in accordance with Condition 7.1.7(a) (i).

<sup>53</sup> In the event that emission testing shows a violation of the PM standard, the source could attempt to rebut the presumption that both boilers are responsible for the violation based on credible evidence showing the responsibility should be assigned to only one boiler. When doing so, it would also be appropriate for the source to also show that it reasonably attempted to operate the boilers and their ESPs in a similar manner during testing as required by Condition 7.1.7(b) (ii).

In any case, if testing of a pair of boilers were to show a violation of the PM standard, further testing of the boilers would be required after the source completed corrective actions to verify that those actions have led to compliance.

**Comment:**

Draft Condition 7.1.9(h)(ii)(D) would require that records of possible exceedances of hourly PM limits must be created only "[i]f...the Permittee *believes* that compliance with the PM standard likely was not maintained." (emphasis added). This permit condition is vague, subjective, and unenforceable and thus falls short of Title V's requirements. As USEPA has explained,

A permit is enforceable as a practical matter (or practically enforceable) if permit conditions establish a clear legal obligation for the source [and] allow compliance to be verified. Providing the source with clear information goes beyond identifying the applicable requirement. It is also important that permit conditions be unambiguous and do not contain language which may intentionally or unintentionally prevent enforcement.

USEPA Region 9 Title V Permit Review Guidelines (Sept. 9, 1999), at III-46; see also *In re Cash Creek Generation, LLC*, Permit No. V-09-006, 2012 EPA CAA Title V Lexis 5, \*94-\*96 (USEPA June 22, 2012) (granting petition to object on the grounds that Title V/PSD permit condition was too vague to be enforceable).

What the permittee "believes," or not, and the basis of that belief, is subjective and not readily ascertainable from any records that otherwise must be kept for the Joppa Plant. As such, this permit condition is subjective, vague, and therefore, unenforceable. It thus does not meet Title V's requirements and must be revised.

In revising this Condition, Illinois EPA should specify that certain objective criteria trigger the recordkeeping requirements under Condition 7.1.9(h)(ii)(D)(I) and (II). Those objective criteria might include, for example, times when the opacity and other parameters of the CAM plan deviate from required levels or a certain number of fields of an ESP are out of service. A possible replacement here would be the following: "where the Permittee has any information that indicates that compliance with the PM standard was not maintained." Illinois EPA should also add recordkeeping requirements for those criteria to the Draft Permit.

**Response:**

The changes to the permit requested by this comment are not appropriate. In addition to the circumstances in which the subject records are required that are addressed by this comment, the subject records are required if emissions exceed an applicable hourly standard. As such, consistent with the cited USEPA guidance, Condition 7.1.9(h)(ii)(D) includes a clear and unambiguous criterion for when the source must keep the subject records that goes beyond the applicable requirement itself.

Moreover, this comment does not show that it is not appropriate for the permit to also require that the source keep the subject records for a malfunction or breakdown when it believes that compliance with an applicable hourly PM limit likely was not

maintained during the incident. As already discussed, there may be circumstances for the coal boilers for PM emissions in which compliance with the state PM standard may not be able to be objectively determined. For those circumstances, as the obligation for recordkeeping directly applies to the source, the source must necessarily make the decision whether the particular records must be kept for an incident. However, the permit also requires that the source must continuously monitor the opacity of emissions from the boilers and keep certain other records for the operation of the ESPs on the boilers. The subject provision does not prevent the Illinois EPA or USEPA from conducting evaluations into the PM emissions during a malfunction or breakdown irrespective of whether the source believed that compliance with the PM standard was maintained during an incident. As such, the subject provision does not act to prevent appropriate enforcement for exceedances of the state PM emission standard.<sup>54</sup>

This comment does not show that in place of requiring the subject records for incidents when compliance with the PM standard likely was not maintained, the permit should establish objective criteria for incidents when the Illinois EPA considers that compliance with the state PM standard likely would not be maintained and the subject records must be kept. While such criteria could be readily followed by the source, such criteria would not necessarily appropriately identify when there was a likely exceedance of the PM standard and the subject records should be kept. Such criteria might also be improperly construed as an official determination by the Illinois EPA for when a boiler should or should not be considered to comply with this standard. In summary, as related to the subject records, the permit appropriately places the obligation to identify likely exceedances of the PM standard on the source.

7. Permit Condition: 7.1.10-2(b)(iii)(D)

Comment:

Under the Draft Permit, Electric Energy must only submit a report that explains the cause of excess SO<sub>2</sub> emissions "if known." Draft Permit at Condition 7.1.10-2(b)(iii)(D). The "if known" language gives Electric Energy an incentive to avoid investigating the cause of excess SO<sub>2</sub> emissions. If Electric Energy does not understand the root cause of excess emissions, it cannot address that root cause to prevent the same problem from recurring, resulting in preventable SO<sub>2</sub> emissions. Condition 7.1.10-2(d)(iii)(A)(IV) suffers from the same flaw. Simply put, it is illogical and inconsistent with the Clean Air Act to omit or limit the requirement that a permittee seek out the causes of exceedances. The Draft Permit should be modified to ensure the permittee determines the cause of excess SO<sub>2</sub> emissions.

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<sup>54</sup> Whether the source kept the subject records for an incident would be an incidental matter in any enforcement action. The nature of this recordkeeping requirement is clearly different from the requirement that the source conduct continuous monitoring for opacity and keep certain operational records. Those requirements clearly apply at all times, addressing both compliant and noncompliant operation of the boilers.

**Response:**

This comment does not show that it is inappropriate for conditions of the CAAPP permit that require reporting of the cause of an exceedance to generally recognize that certain exceedances may occur for which the source may not be able to identify a cause or causes. As the source must still report the occurrence of the exceedance itself, information is still reported that would enable the Illinois EPA or USEPA to evaluate such exceedance and determine whether it is reasonable that the source was unable to identify a cause or causes for the exceedance.<sup>55</sup>

8. Permit Condition: 7.1.10-3(a)(ii)  
Related Conditions: 7.1.9(h)(ii)

**Comment:**

Condition 7.1.10-3(a)(ii) of the Draft Permit only requires Electric Energy to report the information required under Condition 7.1.9(h)(ii)(A), (B) and (D). One of the requirements that Illinois EPA omitted was reporting on cause; the Draft Permit would not explicitly require Electric Energy to report the cause of a malfunction or breakdown. As discussed above, limiting Electric Energy's responsibility to determine the cause of problems creating excess emissions (which malfunctions and breakdowns often do) effectively leads to an increase in emissions that could be prevented if Electric Energy investigated, and addressed, the root cause. The Draft Permit should accordingly be revised to explicitly require Electric Energy to report the cause of a malfunction or breakdown.

Furthermore, Condition 7.1.10-3(a)(ii) of the Draft Permit only requires reporting if the PM standard was exceeded. The Draft Permit should be revised to require Electric Energy to report when the monitoring data indicate that the PM emission standard likely was exceeded (e.g., through operation of the opacity parallel), even where the plant does not yet have data confirming that exceedance. Such reporting would provide Illinois EPA with more information about operations during malfunctions or breakdowns and would hold Electric Energy accountable for exceedances that may have occurred and would otherwise go unreported.

**Response:**

It is appropriate for Condition 7.1.10-3(a)(ii) to be revised as was generally proposed. The reports required by this condition should entail submittal of the information for the subject incidents for which the source must keep records pursuant to Condition 7.1.9(h)(ii). These reports should not be required to include information for which records are not required to be kept. However, Condition 7.1.10-3(a)(ii) of the 2005 permit inadvertently included a separate listing of the information that was required to be submitted and this listing did not match the

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<sup>55</sup> Key factors in such an evaluation would likely be the magnitude, duration and frequency of the exceedances. It is reasonable to expect the cause or causes of exceedances that are large, continue for a period of time or are repeated could be identified. This is because more information would be available to consider the possible cause or causes of the incident.

listing of information for which records were required in Condition 7.1.9(ii).

As observed by this comment, when making this correction to the reporting requirements in Condition 7.1.10-3(a)(ii), it is appropriate that the causes for exceedances still be addressed in the specified reports. This has been appropriately addressed in the issued permit. Condition 7.1.9(h)(ii)(D)(I)(2) requires that the records for a subject exceedance or incident include a detailed explanation for the probable cause of the incidents.

This comment does not show that Condition 7.1.10-3(a)(ii) should continue to specifically require the subject reports be submitted for incidents for which the source finds that compliance with the PM standard likely was not maintained. This condition implements reporting requirements under 35 IAC Part 201 Subpart I, Malfunction and Breakdown. The relevant provisions in 35 IAC 201.263 only mandate reporting for an exceedance of a state emission standard; not for likely exceedances. Accordingly, if the source desires any benefits that derive from 35 IAC Part 201 Subpart I for a likely exceedance of the PM standard, it must as a practical matter submit the specified report. However, the permit should not dictate submittal of such a report. To do so would potentially put in place regulatory benefits for such an incident, such as they may be, that the source would not otherwise seek.

9. Permit Condition: 7.1.11(c)

Comment:

We are concerned about emissions that could result from the burning of alternative fuels under Condition 7.1.11(c). First, the permit should explicitly state which exact alternative fuels will be burned at the plant. Second, the permit must set emission limits for any HAPs that are not currently limited by the permit that may result from the burning of these alternative fuels. Finally, the permit should make clear that emissions must stay within permit limits and that the authorization to burn additional fuels is not an authorization to exceed permit limits when burning those fuels.

The permit should clarify which alternative fuels will be burned at the plant. The language of the Draft Permit currently states that "[s]uch alternative fuels include materials such as Traditional Fuels (as defined at 40 CFR 241.2) and non-hazardous secondary materials that are not solid wastes when combusted (as specified at 40 CFR 241.3(b) or 241.4(a))." Draft Condition 7.1.11(c)(ii). This language is far too opaque. Members of the public have a right to know what fuels will contribute to emissions that they will be breathing and the Draft Permit fails to provide them with this information. Providing this information would furthermore give the public opportunities to comment on specific concerns with the fuels that may be used and to provide clarifications with respect to this language. For example, the draft revised CAAPP Permit for Powerton, which was released for public comment on August 25, 2016, provided that the alternative fuels that may be burned at Powerton Station include materials

such as petroleum coke, tire derived fuel, clean lumber, shredded polyethylene agricultural containers, and seed corn. Draft Revised CAAPP Permit for Powerton at Condition 7.1.11-1(c)(ii) (Aug. 25, 2016). This not only provided the public with a better understanding of which alternative fuels would be used at the plant, it gave them an opportunity to express concerns with these fuels and to request clarifying language that should be incorporated into the permit. See, e.g. Comments submitted by Citizen Groups to Illinois EPA on the draft re-opened Powerton CAAPP permit at 8-9 (Dec. 15, 2016) (requesting clarifying language with respect to "clean lumber").

The permit, furthermore, must set emissions limits for the each alternate fuel specific to pollutants that might be found in that fuel. For example, some of the alternative fuels identified in the draft revised permit for Powerton demonstrate why it is crucial for CAAPP permits to set emission limits for any HAPs. Clean lumber, for instance, can still include products containing formaldehyde and polyurethane. Also, when burned, the byproducts from synthetic rubber tires would include highly toxic beryllium, lead, cadmium, selenium, silver, manganese and chromium 6. Furthermore, petroleum coke can have high SO<sub>2</sub> and NO<sub>x</sub> emissions, which, while controlled to some degree by DSI and SNCR, could still be higher than SO<sub>2</sub> and NO<sub>x</sub> emissions from burning coal. Thus, it is critical that the permit set emissions limits for the pollutants—especially HAPs—that could result from burning alternative fuels. This is most crucial in relation to the potential HAPs because the alternative fuels can emit HAPs that may not result from the burning of coal and therefore there may not currently be permit limits for those pollutants. For this reason, the permit should require the testing of alternate fuels before they are burned at the facility to make sure that the potential contents of the alternate fuels are consistent with those identified by the permit and for which emissions limits have been set. Finally, the permit should contain added notice requirements indicating that whenever the facility burns any alternative fuel, it needs to provide notice to Illinois EPA of the amount, content, and testing results.

To ensure that emission limits are followed, and to keep records of the impact of alternative fuels burning, Illinois EPA also should ensure that fuel use is reported publicly. We were unable to identify any permit conditions requiring such reporting. The permit should contain reporting requirements for use of alternative fuels, which reporting requirements should capture any impact alternative fuels have on plant emissions. If Illinois EPA contends that the permit already has such requirements, please identify them.

**Response:**

**In response to this comment, and in consultation with the Permittee, the Illinois EPA is revising the permit to provide additional clarity as to the identification of fuels that can be burned in accordance with Condition 7.1.11. More specifically, the provision found at Condition 7.1.11(c)(ii) of the draft permit**

is being removed, as the source currently has no plans for burning the alternative fuels specified in this condition.

The permit will retain the provision for burning used oil generated at the source at Condition 7.1.11(c) (i). The nature of this latter category of materials was not specifically addressed in the comment, and the general terminology of the provision does not appear to be so "opaque" as to require further clarity at this time.<sup>56</sup>

The draft permit contains all emission standards that are currently required under the Clean Air Act and state law as "applicable requirements," including a select category of emission standards governing HAP emissions. As set forth in Condition 6.5 of the draft permit, the source must comply with the requirements under 40 CFR 63, Subpart UUUUU - Mercury and Air Toxics Standards for electrical generating units. Beyond this, the Title V program does not provide legal authority for a permit authority to create substantive emission standards. To the extent that the comment requests the Illinois EPA to establish HAP emission limits for pollutants potentially released from the burning of alternative fuels, such authority does not exist within the permitting framework of the Title V program. For this reason, the Illinois EPA must decline imposing emission limits that relate to Condition 7.1.11.

The comment also claims that the CAAPP permit must be conditioned to require the source to refrain from violating its permitted limits, including during times when the source threatens to exceed permit limits when burning alternative fuels. However, the CAAPP permit already expressly states that the Permittee must comply with all the terms and conditions of the CAAPP permit.<sup>57</sup> Moreover, nothing contained within Condition 7.1.11 could be reasonably construed to authorize the source to violate permitted emissions limits in conjunction with the anticipated operating scenarios and/or operational flexibility provided by the condition.

Lastly, the comment requests that the permit contain a requirement for the public reporting of alternative fuel use governed by the Condition 7.1.11. Given that the Permittee has significantly narrowed the scope of materials that will be covered by Condition 7.1.11(c), and given that the comment appears to only focus on alternative fuels other than used oil, the imposition of such requirements is unnecessary.<sup>58</sup> The burning of used oil in

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<sup>56</sup> It can be noted with respect to this specific category of fuels that the issuance of the revised CAAPP permit is conditioned upon the source not being subject to the requirements of 40 CFR 60, Subpart CCCC - Commercial, Institutional and Industrial Solid Waste Incinerator Standards.

<sup>57</sup> Condition 9.2.1 of the draft permit reads as follows: "The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7) (o) (i) of the Act]."

<sup>58</sup> The comment briefly suggests that the CAAPP permit require testing of alternative fuels to ensure consistency of the materials' contents with those materials identified by the permit and, further, that notice, accompanied by emissions testing results, be

accordance with this Condition will continue to be governed by the emissions testing, reporting and recordkeeping requirements set forth in the draft permit.<sup>59</sup>

10. Permit Condition: 7.1.12(a)(ii)(E)

Comment:

Draft Condition 7.1.12(a)(ii)(E) would only require the Permittee to notify Illinois EPA of changes in the type of short term opacity data that it is collecting in association with 35 IAC 212.123(b) when it submits its quarterly report. The Statement of Basis states that "the specific aspect of the source's procedures that is of interest to the Illinois EPA is the type of short-term opacity data that is collected." Statement of Basis for Draft 2016 Permit, at 32. This is problematic. While we appreciate that Condition 7.1.12(a)(ii)(E) in the Draft Permit includes the requirement that Electric Energy notify Illinois EPA of its changes to the type of short term opacity data that is collected, if the recordkeeping and data handling practices associated with 35 IAC 212.123(b) are improperly executed, then the data that is of interest to Illinois EPA can be incorrect. Thus, in order to determine whether or not the SIP has been satisfied, the Draft Permit should be revised to ensure that Illinois EPA is notified of new recordkeeping and data handling practices. This notification should happen before these changes in practices occur to avoid any interference with proper recordkeeping and data handling procedures.

Response:

Upon further consideration, the Illinois EPA concluded that advance notice by the source, as would have been required for certain changes to its procedures by Condition 7.1.12(a)(ii)(E) in the initial permit, is not warranted. The key purpose of this condition was to ensure that the source was keeping appropriate short-term opacity for the boilers as is needed to implement 35 IAC 212.123(b). However, Condition 7.1.12(a)(ii)(A) clearly lays out the types of short-term opacity data that the source must record as it elects to rely on 35 IAC 212.123(b), i.e., either a continuous chart recording measured opacity, a record of discrete measurements of opacity taken no more than 15 seconds apart, or a record of 1-minute average opacity data.

Moreover, it is unlikely that the Illinois EPA would be able to complete any review of a planned change within the 15 day period that would have been provided by the initial CAAPP permit. 35 IAC 212.123(b), which is part of Illinois SIP, does not provide that a source must obtain approval from the Illinois EPA prior to reliance on this alternative to the generally applicable opacity standard in 35 IAC 212.123(a).

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provided to the Illinois EPA prior to whenever such materials are burned. For the reasons described above, the Illinois EPA does not find such conditions to be necessary.

<sup>59</sup> See, Conditions 7.1.7(a)(v), 7.1.7(e)(iii)(F), 7.1.10-2(a)(i)(C), and 7.1.7(a)(ii) and (a)(iv).

Finally, the initial condition could potentially have been misinterpreted to extend to any change in procedures by the source, including changes in the personnel that reviewed opacity data or the scheduling of this review.

11. Permit Condition: 7.1.12(b)

**Comment:**

Condition 7.1.12(b) establishes that compliance with the PM limits in Condition 7.1.4(a) is determined through "testing requirements in Condition 7.1.7, continuous opacity monitoring in accordance with Condition 7.1.8(e), and the relevant recordkeeping required by Condition 7.1.9." However, the draft permit does not specify the recordkeeping provisions of Condition 7.1.9 that are "relevant" to determining compliance with the PM limits in Condition 7.1.4(a). This could be confusing to regulatory authorities and the public because Condition 7.1.9 contains the recordkeeping requirements related to determining compliance, with all pollutants for the boilers and associated controls and monitoring equipment.

To comply with 40 CFR 70.1 (b), Condition 7.1.12(b) should be revised to identify only those provisions of Condition 7.1.9 that are directly related to determining compliance with the PM limits.

**Response:**

The specific records that would be relevant to determining compliance with the PM limit are the records required by Conditions 7.1.9(b) (i) and (b) (ii), 7.1.9(a) (i) through (a) (iv), (c) and (f) through (h). The word "relevant" is included to make clear that a combination of the information in these records could be relevant for the determination of compliance.

12. Permit Condition: 7.1.13-1  
7.1.13-2

**Introduction:**

As explained in detail below, the CAM plan required by the Draft Permit does not contain sufficient indicators of performance to ensure compliance with PM emission limits, nor does it require sufficient responsive actions when performance indicators are operating outside of indicator ranges. The Draft Permit should be revised to address those deficiencies.

The Joppa Plant's emission units include six coal-fired boilers, Boilers 1, 2, 3, 4, 5 and 6. The boilers are subject to Condition 7.1.4(a) of the Draft Permit, setting out hourly average particulate matter ("PM") emissions limits of 0.19 lb/MMBtu of actual heat input for each affected boiler. This limit is incorporated from Illinois' State Implementation Plan ("SIP") at 35 IAC 212.203.

The Draft Permit includes a new Condition 7.1.13-1, which includes Illinois EPA's conditional approval of a CAM plan proposed by Electric Energy and set out in Table 7.1.13. The proposed CAM plan would require monitoring of the operation of one PM control

device: the Joppa Plant's electrostatic precipitator ("ESP"). See Table 7.1.13. The sole proposed indicator for the proper operation of the ESP is the percentage of opacity in the flue gas stream in the stacks of the boilers. See *id.* The proposed plan does not specify the percentage of opacity that would trigger responsive actions for the Boilers, but instead requires Electric Energy to perform "PM emissions testing" within 120 days of the issuance of the permit, and then submit an application for a proposed modification "to incorporate information for the opacity value that was derived from testing." Draft Permit Conditions 7.1.13-(a), (b)(i) and (ii)).

The opacity of the flue gas stream is measured by a continuous opacity monitoring system ("COMS") installed in the stack. See Table 7.1.13; Statement of Basis at 62. Illinois EPA proposes that the indicator range, in order to provide a reasonable assurance of compliance, be based on the percentage of opacity measured by the COMS, averaged over three-hour block periods. Draft Permit at Table 7.1.13. As stated in the Draft Permit, "[a]n excursion is defined as an event during which a measured opacity exceeds [ \* ] percent, based on a rolling 3-hour average of COMS data..." See *id.*

The proposed CAM plan does not provide sufficient monitoring to assure proper operation and maintenance of the ESPs, and must be revised. Specifically, the plan must include: 1) a requirement for an indicator range that will demonstrate proper operation and maintenance of the Plant's ESPs; 2) monitoring of additional parameter(s) relating to the Plant's ESPs; and 3) practically enforceable responsive actions to excursions from the indicator range.

**a. Comment:**

The averaging time in the CAM Plan is too long to assure compliance with PM limits. Although the CAM Plan provides for continuous monitoring every six minutes through operation of the COMS, it undermines the effect of this monitoring by allowing the plant operator only to report opacity measurements that exceed the permissible 30 percent limit over a three-hour averaging period. This is improper because it potentially fails to capture hundreds or even thousands of actual exceedance events, which can have significant health impacts on the nearby community. It also is inconsistent with CAM requirements: the CAM rule provides that a CAM monitoring program must "[a]llow for reporting of exceedances (or excursions if applicable to a COMS used to assure compliance with a particulate matter standard), consistent with any period for reporting of exceedances in an underlying requirement." 40 CFR 64.3(d)(3)(i). In this case, the Illinois SIP provides that the applicable averaging period in the underlying PM emission limit is hourly. 35 IAC 212.202. Therefore, at minimum, the CAM plan must require reporting of opacity excursions on an hourly basis.

**Response:**

**It is not inappropriate for the source to have used a three-hour period in its CAM plans for the boilers. The CAM plans use a rolling three-hour period. This comment generally indicates that the CAM plans should address the boilers' compliance on an hour-**

by-hour basis. This is provided with a rolling three hour period because a separate determination is made for each hour, based on the average of opacity for that hour and the two preceding hours.<sup>60</sup>

The aspect of the PM emission standards that supports use of three- hour periods in the CAM plans is that, notwithstanding the language of 35 IAC 212.203, emission testing to determine compliance with these standards involves three separate test runs, each nominally one-hour in duration. As provided by 35 IAC 212.110 and 283.210, compliance is evaluated based on the average of the measurements in the individual test runs compared to the applicable standard. In other words, testing to determine compliance with the PM standards involves a three-hour averaging period. As a general matter, the use of three separate test runs is considered necessary to assure a credible measurement of emissions that is appropriately relied upon to assess compliance or to quantify emissions.<sup>61</sup> It follows that opacity should also be evaluated as a three-hour average, consistent with the time period over which testing for PM emissions is conducted.

The PM testing that will be conducted pursuant to the CAM plan should confirm that use of a three-hour average of opacity is appropriate in the CAM plans.

A review of the CAM rules, 40 CFR Part 64, does not show that the time period used in a CAM plan must match the period that is implied by the language of the applicable emission standard. Rather, this period should be consistent with the time period in which a change in the operating parameter that would indicate an excursion would be observed.<sup>62</sup> As applied to the coal boilers at

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<sup>60</sup> Even though the CAM plans use a three-hour period, an excursion could theoretically occur and corrective actions be triggered by the hour in which the hourly opacity exceeds 30 percent. In a situation involving a sudden problem with an ESP, the three-hour average opacity could easily exceed 30 percent for the hour in which the problem occurs. (For example, if the opacity in the previous two hours was 26% and 24%, opacity of 43% in the hour in which the problem occurs would result in a three-hour average opacity of 31%.) Similarly, in a scenario involving a gradual problem with an ESP, the three-hour average opacity could exceed 30 percent for the hour in which the opacity exceeds 30 percent. (For example, if the opacity in the previous two hours was 28% and 30%, opacity of 35% in an hour would result in a three-hour average opacity of 31%.)

<sup>61</sup> The use of multiple test runs, with independent measurements of emissions, protects against the basic uncertainty that would be present with USEPA methods for testing PM emissions if only a single test run were required. The results of a single run could be "off," either high or low, based on errors in carrying out the test. Multiple runs serve to confirm the proper implementation of test methodology. Multiple runs also serve to address the range of uncertainty, again both high and low, that may be present in individual test measurements, even when conducted properly.

<sup>62</sup> In this regard, 40 CFR 64.3(b)(4)(i) provides that:

At a minimum, the owner or operator shall design the period over which data are obtained and, if applicable, averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). Such intervals shall be commensurate with the time period over which a change in control device performance that would require actions by owner or operator to return operations within normal ranges or designated conditions is likely to be observed.

Joppa, this accommodates use of a three hour period in the CAM plans.<sup>63</sup>

USEPA's proposed ESP CAM Protocol also indicates that, if appropriately justified, CAM plans for ESPs on coal boilers can use a period as long as three hours:

You may use a different averaging period [longer than one hour], but you must justify a longer averaging time with additional supporting information. Such information will include data showing low emissions and opacity variability and a large margin of compliance under almost all operating conditions. In no case should you select an opacity-averaging time longer than 3 hours.

USEPA proposed ESP CAM Protocol, p. 6

The results of PM testing to be conducted will be used to further justify if the CAM plan is appropriate.

**b. Comment:**

The CAM Plan Should Include Additional Parametric Monitoring of the ESPs. The Illinois EPA should revise the CAM plan to include monitoring of other parameters of ESP performance in addition to opacity. Specifically, pursuant to USEPA guidance, the CAM plan should include monitoring of voltage and current for each ESP field.

Furthermore, since the opacity/PM correlation can vary under some operating conditions, the CAM plan must provide for monitoring of additional parameters in addition to opacity. Indeed, USEPA's monitoring protocol for CAM plans at coal plants does just that. Ex. B, ESP CAM Protocol at 3. USEPA's "presumptively acceptable" approach, see 40 CFR 64.4(b)(5), provides that the source also should monitor not only opacity but also other ESP operating parameters—specifically, voltage and current for each ESP field—and run a calibrated computer model to calculate ESP efficiency when the opacity excursion level is triggered. Ex. B, ESP CAM Protocol at 4. See also USEPA, *CAM Technical Guidance Document*, App. A.25, *Electrostatic Precipitator (ESP) For PM Control—Facility FF* (June 2002), at A.25-2 (model CAM plan providing that "ESP secondary voltage and current are measured for each field to determine the total power to each ESP").<sup>64</sup> In order to assure proper operation and maintenance of Joppa's ESPs, Illinois EPA should also require parametric monitoring of voltage and current for each ESP field.

**Response:**

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<sup>63</sup> It should be understood that as the CAM plans relate to the state PM standard, it only addresses excursions and corrective actions relative to this standard. Separate from the CAM plans, the source must take corrective actions for a boiler in response to an excursion of the state opacity standard, 35 IAC 212.123. This standard generally limits opacity to 30 percent on a 6-minute average, consistent with the methodology in Method 9. Accordingly, in practice, the source would need to take corrective actions for the boilers to address compliance with the opacity standard well before such actions would be required under the CAM plan relative to the state PM standard.

<sup>64</sup> Available at <http://cfpub.epa.gov/oarweb/mkb/cam.cfm>.

The existence of the USEPA proposed ESP CAM Protocol does not provide an adequate basis to conclude that the CAM plan submitted by the source for the coal boilers at Joppa are deficient and to require the CAM plan to address operating parameters of the ESPs, as requested by this comment. Under 40 CFR Part 64, a CAM plan must be designed to provide a "reasonable assurance" of compliance with an applicable emission limit.<sup>65</sup> The fact that the source could have developed a CAM plan that followed the approach contemplated by the USEPA proposed ESP CAM Protocol does not show that the CAM plan that the source actually did develop, as addressed by the issued permit, does not provide a reasonable assurance of compliance.

Moreover, as discussed in this comment, the USEPA proposed ESP CAM Protocol involves opacity, the operating parameters of an ESP and the efficiency or performance of an ESP. Opacity is used as a "screening" parameter and is used to define periods of elevated opacity when a specific evaluation of the performance of the ESP is needed based on the operating parameters of the ESP during such periods. For the purpose of this evaluation, the USEPA proposed ESP CAM Protocol relies on the development and calibration of a computer model for the performance of the ESP. This model would then be used to determine ESP performance from the operating parameters of the ESP. As such, the USEPA proposed ESP CAM Protocol does not rely directly on the operating parameters of an ESP but on the performance of an ESP as calculated using a computer model.<sup>66</sup> The source used a much simpler and more direct approach in its CAM plans for the coal boilers at Joppa, using opacity as the indicator parameter. For the source, this approach avoids having to develop and calibrate computer models for the ESPs on the boilers. This is simpler for the Illinois EPA because there is not a delay while the model is being run to determine whether there was an excursion during a period of elevated opacity. It is also simpler because the Illinois EPA does not have to verify the design and calibration of the computer models or evaluate the modelling that is conducted by the source for periods of elevated opacity.

The comment also claims that in the USEPA proposed ESP CAM Protocol, USEPA indicates that opacity alone is not a good indicator of proper operation of an ESP. This is patently untrue as the protocol uses opacity as a screening indicator. While as a general matter, opacity may not indicate the magnitude of mass emissions relative to any one opacity value, this does not mean that opacity cannot be used as the operating parameter in the CAM plan for a particular emission unit. In this regard, this protocol states that "...for any given ESP and boiler, opacity can

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<sup>65</sup> A CAM plan is not intended to provide enhanced monitoring such that there is a direct determination or measure of compliance with an applicable limitation. Indeed, if a source uses a "continuous compliance determination method" to determine whether an emission unit complies with a limitation, 40 CFR 64.2(b)(vi) provides that a CAM plan is not needed to address such limitation.

<sup>66</sup> The example CAM plan in the USEPA proposed ESP CAM Protocol provides that "When the hourly opacity is outside the indicator range, there is no reporting or corrective action requirement relative to the PM limit, but the operator must run the EPRI ESPM computer model." USEPA proposed ESP CAM Protocol, p. 13.

serve as a very useful indicator to initiate additional action..." (USEPA proposed ESP CAM Protocol, p. 3, emphasis added).

As a final point, it is noteworthy that the USEPA proposed ESP CAM Protocol, which was only proposed by USEPA and never finalized, states that:

Use of this protocol is not required; you as source owners and operators may propose other PM monitoring approaches for ESP's controlling coal-fired boilers. Presumptively acceptable monitoring is not prescriptive. USEPA proposed ESP CAM Protocol, p. 2 (emphasis added)

**c. Comment:**

The CAM Plan Does Not Trigger Response Obligations Early Enough to Ensure Compliance with the PM Standard. The CAM rule is not premised on identifying and selecting the most extreme indicator range under which a source can avoid violating an emission limit. Instead, the CAM rule provides that indicator ranges "shall reflect the proper operation and maintenance of the control device (and associated capture system), in accordance with applicable design properties, for minimizing emissions over the anticipated range of operation conditions at least to the level required to achieve compliance with the applicable requirements." 40 CFR 64.3(a)(2). Thus, the basic approach of the CAM rule is to determine what parametric indicator ranges reflect the proper operation and maintenance of the relevant pollution control device, and to make sure that the permittee promptly addresses any deviation from those ranges with responsive actions. In this manner, compliance with the associated emission limit is assured because operational problems that otherwise would cause violations are promptly corrected.

In order for this process to work, deviations from proper operation and maintenance of the facility should be addressed before they threaten compliance with the PM standard. The Draft permit does not do this: instead, it only requires responsive action if there is an exceedance of the opacity limit. This is problematic because the Illinois SIP states that a unit's violation of its opacity limit constitutes a presumptive violation of its PM limit. Pursuant to 35 IAC 212.124(d)(2)(A), violations of the opacity limits in 35 IAC 212.122 and 212.123 "shall constitute a violation of the applicable particulate limitations" in the SIP, unless the owner or operator submits contemporaneous performance testing results "under the same operating conditions for the unit and the control devices" showing that the unit complied with its PM limit. Thus, by the time the CAM plan requires responsive action, the PM limit will *already have presumptively been violated*. This is not consistent with the proper function of a CAM plan, which is to prevent violations rather than simply respond to them. Thus, Illinois EPA should require the permittee to take corrective action when opacity levels approach the opacity limit that will be established for the Joppa Plant, rather than after those levels have already exceeded the limit, so that exceedances can be prevented in the normal operation of the plant.

**Response:**

This CAM Plan for PM emissions from the Joppa boilers had not identified a measured opacity level that provided reasonable assurance that particulate matter emissions were in compliance with the PM permit limit because specific stack testing for the purposes of CAM has not been completed at Joppa to establish a correlation between opacity and PM emissions. The CAM plan was therefore "Conditionally Approved" to allow Electric Energy time to complete this testing. However, as discussed in more detail in the responses below for Condition 7.1.13-1 and 7.1.9(c)(ii)(B), the CAM Plan now includes a specific opacity level of 30% and Electric Energy must still complete this testing and begin implementing compliance assurance monitoring immediately upon issuance.

The level at which responsive actions to an excursion must be initiated for the Joppa boilers is sufficient in the interim period until such testing is completed because the Joppa Power station generally has an 83% margin of compliance for PM (average of 0.032 lb PM/mmBTU). At a value of 30% opacity, the PM emissions would be estimated at 0.09 lb PM/mmBTU which is still a 54% margin of compliance.

**d. Comment:**

The CAM Plan Does Not Include Sufficient Responsive Actions. Condition 7.1.13-2(c)(ii)(A) of the CAM plan sets out the actions that Electric Energy is to take in response to excursions of indicator ranges. Essentially, the Condition requires Electric Energy to "restore operation of the [Boilers] (including the control device and associated capture system) to [their] normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions." Draft Permit at Condition 7.1.13-2(c)(ii)(A). This standard does not provide enough detail to assure prompt correction of improper operation, and should be revised to include a site-specific description of required responsive actions. It also is subjective and vague, making it difficult to enforce as a practical matter and therefore not in compliance with Clean Air Act requirements. USEPA Region 9 Title V Permit Review Guidelines (Sept. 9, 1999); *In re Cash Creek Generation, LLC*, Permit No. V-09-006, 2012 EPA CAA Title V Lexis 5, \*94-\*96 (USEPA Jun. 22, 2012).

The CAM plan for the Joppa Plant should include more detailed and enforceable requirements for responsive action. For opacity levels that threaten non-compliance with the PM emission limit, the facility should be required to shut down the affected Boiler, or at least immediately reduce operation of the boiler within 30 minutes to ensure a return to compliance with the applicable standard. Additionally, the Permit should include a site-specific description of necessary responsive actions for more minor excursions (without unduly hampering the plant's flexibility to tailor a response to the specific excursion). Such requirements would be enforceable as a practical matter as compared to the

subjective and vague language regarding returning Boilers to their normal manner of operation "as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions."

**Response:**

This comment does not justify any changes to draft Condition 7.1.13-2(c)(ii)(A). This condition simply reiterates the relevant language in 40 CFR 64.7(d)(1), which addresses how a source must respond to excursions or exceedances identified pursuant to its CAM monitoring.<sup>67</sup> As such, it is fully appropriate that this condition be included in the issued permit in the form in which it was set out in the draft permit without any changes. Moreover, when an exceedance or excursion is identified, the CAM Plan approved by the permitting authority should not predetermine the source's response based on the magnitude of the occurrence. As confirmed by 40 CFR 64.7(d)(2), the adequacy of a source's response to an exceedance or excursion is to be evaluated by a regulatory authority on a case-by-case basis.<sup>68</sup>

13a. Permit Condition: 7.1.13-1  
Related Conditions: 7.1.9(c)(ii)(B)

**Comment:**

The draft permit lacks a Compliance Assurance Monitoring (CAM) plan for emissions of particulate matter (PM) from the coal-fired boilers.

The six coal-fired boilers located at the Joppa Power Station are subject to CAM requirements in accordance with 40 CFR Part 64 for the PM emission standard set forth in Condition 7.1.4(a). See Condition 7.1.8(e).

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<sup>67</sup> 40 CFR 64.7(d) provides:

(d) Response to excursions or exceedances. (1) Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

<sup>68</sup> In practice, the Illinois EPA would expect that if the cause of an excursion is not readily apparent, an important aspect of such an investigation would be an examination of the operating parameters of the ESP, for which the permit requires monitoring be conducted, comparing the values of those parameters during the incident, the values of parameters leading up to the incident, and the typical values of parameters.

Pursuant to 40 CFR 64.5(a)(2), on or after April 20, 1998, the Permittee was required to submit to Illinois EPA the information required by 40 CFR 64.4 as part of its application for a significant modification under 40 CFR Part 70. This included a CAM plan that contains "monitoring that satisfies the design requirements in §64.3," as part of its application for a significant modification under 40 CFR Part 70. Since the draft permit is a significant modification to an existing permit, a CAM plan should have been submitted by the Permittee as part of its application for the current permit action. However, the draft permit does not contain the necessary elements of a complete CAM plan, as required by 40 CFR 64.4, including the identification of appropriate indicators and indicator ranges.

The permit contains a "conditional approval" of a CAM plan, including a requirement and a schedule for additional PM emissions testing, pursuant to 40 CFR 64.6(b) and (d) and Section 39.5(7)(a) of the Act. Condition 7.1.13-1. Illinois EPA explains in the draft permit and Statement of Basis the decision to incorporate into the draft permit a "conditional approval" of the Permittee's CAM plan since the Permittee "had not acquired sufficient test data for the coal boilers for PM emissions." Statement of Basis at 61. See also Condition 7.1.13-1(a). Illinois EPA further states that the draft permit requires the Permittee to "conduct further testing for PM emissions to confirm the ability of the monitoring to provide data sufficient to satisfy 40 CFR Part 64 and/or the appropriateness of the indicator ranges ... ". *id.*

Since an effective permit was not issued to the Permittee before April 20, 1998, any appropriate analysis and testing needed for a complete CAM plan should have been prepared by the Permittee and submitted to Illinois EPA as part of an updated permit application for incorporation into the significant modification or reopening permit.

Pursuant to 40 CFR 70.6 and Section 39.5 of the Act, the draft permit must contain all requirements that apply to the source, including CAM requirements.

**Response:**

**As the comment correctly states, the draft CAAPP permit is both a significant modification to resolve the pending appeal and a reopening to update the permit with all applicable requirements. However, the comment incorrectly states that both appropriate indicator(s) and corresponding indicator range(s) were not included in the CAM Plan submitted by Joppa Power Station. The indicator was included in the submitted CAM Plan as opacity. As discussed in the response to the comment above, opacity is an appropriate indicator for PM. Additionally, the comment states that because the permit issued in September of 2005 never became effective prior to April 20, 1998 (an impossibility given an initial CAAPP permit was never issued as a result of the administrative stay of the entire CAAPP permit) the source should have submitted a CAM Plan that included the indicator range for opacity. However, this statement is misleading at best as it suggests that the Joppa Power Station was not an existing CAAPP**

source, but rather a new CAAPP source for which an initial application was due after April 20, 1998.

That said, the CAM Plan did not provide an indicator range for opacity because the data that would have been relied on was from 2002, prior to the installation of additional controls for other pollutants (namely Hg). It was for this reason that the Illinois EPA made a conditional approval with the requirement to perform specific stack testing to confirm the ability of the monitoring to provide data sufficient to satisfy 40 CFR Part 64 and/or the appropriateness of the indicator range. Additionally, as stated in the above comment, Condition 7.1.9(c) required the Joppa Power Station to monitor, in the interim, opacity and document whether a deviation from the PM limitation in Condition 7.1.4(a) may have occurred.

In response to this comment, the issued permit now contains a fully approved CAM Plan that has an indicator range of 30% opacity on a three hour rolling block average. However, because the initial concern of the age of test results, the recent addition of control devices and a marginal compliance margin of 54% at a 30% opacity level, the permit still requires the source to perform and report the results of stack testing within 180 days of the issuance of the CAAPP permit to confirm the ability of the monitoring to provide data sufficient to satisfy 40 CFR Part 64 and/or the appropriateness of the indicator range. Should the stack testing demonstrate that a lower opacity range is necessary to trigger a CAM excursion, the source is required to submit a permit revision to modify the indicator range.

- b. Permit Condition: 7.1.9(c) (ii) (B)

**Comment:**

Condition 7.1.4(a) of the draft permit states that the emissions of PM from "each affected boiler" shall not exceed 0.19 lb/mmBtu of actual heat input in any one-hour period, pursuant to 35 IAC 212.203. To demonstrate compliance with this limit, the draft permit, among other things, requires the Permittee to keep records of opacity measurements pursuant to Condition 7.1.9(c), including records of "three-hour block" averaged opacity data "when the average opacity of a pair of affected boilers was above 30 percent, with date, time, measured opacity (three-hour block average), operating condition of the boiler(s) affected if during startup, malfunction, breakdown, or shutdown, further description of the incident, and, if other information shows that the PM emissions of the affected boiler(s) exceeded or likely exceeded the limit in Condition 7.1.4(a), a description of that information with explanation." See Condition 7.1.9(c)(ii)(B).

However, it is not clear how "three-hour block" average opacity measurements that exceed 30 percent correspond to compliance with the PM emission limit in Condition 7.1.4(a). The Illinois EPA must, therefore, establish within the permit record, a correlation between the opacity measurements and the PM emissions from the affected boilers such that compliance with the 30 percent three-hour block opacity limit assures compliance with the PM limit.

**Response:**

It is not inappropriate to use a three-hour period and opacity in the CAAPP permit as surrogate for PM emissions monitoring on the boilers. In response to this comment, the issued permit no longer contains Condition 7.1.9(c). As discussed in the previous comment, the CAM plans that were conditionally approved in the draft CAAPP permit are now fully approved based on stack testing data that justifies the use of 30% opacity on a three hour rolling block average. The change addresses this comment as it generally indicates that the CAM plans should address the boilers' compliance on an hour-by-hour basis. This is provided with a rolling three hour period because a separate determination is made for each hour, based on the average of opacity for that hour and the two preceding hours.<sup>69</sup> Moreover, Condition 7.1.9(c) was only an interim requirement during the time period for Joppa Power Station to perform stack testing to establish the appropriate indicator range for opacity.

The aspect of the PM emission standards that supports use of three- hour periods of opacity in the CAM plans is that, notwithstanding the language of 35 IAC 212.203, emission testing to determine compliance with these standards involves three separate test runs, each nominally one-hour in duration. As provided by 35 IAC 212.110 and 283.210, compliance is evaluated based on the average of the measurements in the individual test runs compared to the applicable standard. In other words, testing to determine compliance with the PM standards involves a three-hour averaging period. As a general matter, the use of three separate test runs is considered necessary to assure a credible measurement of emissions that is appropriately relied upon to assess compliance or to quantify emissions.<sup>70</sup> It follows that opacity should also be evaluated as a three-hour average, consistent with the time period over which testing for PM emissions is conducted.

The PM testing that was conducted in the year 2002 pursuant to previous State operating permit requirements confirms that use of a three-hour average of opacity is appropriate in the CAM plans.

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<sup>69</sup> Even though the CAM plans use a three-hour period, an excursion could theoretically occur and corrective actions be triggered by the hour in which the hourly opacity exceeds 30 percent. In a situation involving a sudden problem with an ESP, the three-hour average opacity could easily exceed 30 percent for the hour in which the problem occurs. (For example, if the opacity in the previous two hours was 26% and 24%, opacity of 43% in the hour in which the problem occurs would result in a three-hour average opacity of 31%). Similarly, in a scenario involving a gradual problem with an ESP, the three-hour average opacity could exceed 30 percent for the hour in which the opacity exceeds 30 percent. (For example, if the opacity in the previous two hours was 28% and 30%, opacity of 35% in an hour would result in a three-hour average opacity of 31%).

<sup>70</sup> The use of multiple test runs, with independent measurements of emissions, protects against the basic uncertainty that would be present with USEPA methods for testing PM emissions if only a single test run were required. The results of a single run could be "off," either high or low, based on errors in carrying out the test. Multiple runs serve to confirm the proper implementation of test methodology. Multiple runs also serve to address the range of uncertainty, again both high and low, that may be present in individual test measurements, even when conducted properly.

This is because the Joppa Power station generally has a 83% margin of compliance for PM (average of 0.032 lb PM/mmBTU). At a value of 30% opacity, the PM emissions would be estimated at 0.09 lb PM/mmBTU which is still a 54% margin of compliance.

The comment also states that IEPA "must" establish a correlation between opacity and PM emissions that assures compliance with the PM limit. The statement "assures compliance" is somewhat overreaching because a correlation alone cannot assure compliance. Furthermore, a correlation alone is merely a statistical descriptor. All a correlation does is to demonstrate whether two parameters are related (either do or do not have an interdependency on each other). This description would provide the extent of interdependency and whether the extent is enough to exploit the predictive capacity of the relationship. However, it is reasonably accepted that opacity is good indicator of PM emissions because as the PM emissions increase, opacity will also increase. Moreover, based on the statistical analysis of this data, the results show that there is a strong relationship between opacity and PM emissions for these boilers. This can be seen by the so-called Pearson correlation coefficient results (0.8863). Since the value of the Pearson correlation coefficient is not zero and the value is positive, this indicates that when opacity (the x parameter) goes up, the PM emissions (the y parameter) also go up. However, even though this proves the basic assumption regarding the relationship between opacity and PM emissions, this is not a place to end the analysis. A correlation does not provide for an actual best fit line of the data set but rather a bundled index number containing additional specific information regarding the accuracy of the correlation.

The results of unpacking the bundled index number indicate that although there is a correlation between opacity and PM emissions, the predicted values do not entirely explain all of the variance in the data. In other words, the monitored opacity is being affected by other characteristics besides purely the concentration of particulate in the exhaust gases. This is shown by the weak values of  $R^2$  and adjusted  $R^2$  (0.786 and 0.762 respectively). However, there is a very good statistical significance to a regression line since the "Significance F" or Probability value is extremely low equal to 0.0279% (<< 10%). This probability gives an indication as to whether the predicted value of y (PM emissions) was obtained purely by chance.

A review of the CAM rules, 40 CFR Part 64, does not show that the time period used in a CAM plan must match the period that is implied by the language of the applicable emission standard. Rather, this period should be consistent with the time period in which a change in the operating parameter that would indicate an excursion would be observed.<sup>71</sup> As applied to the coal boilers at

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<sup>71</sup> In this regard, 40 CFR 64.3(b)(4)(i) provides that:

At a minimum, the owner or operator shall design the period over which data are obtained and, if applicable, averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). Such intervals shall be commensurate with the time period

Joppa, this accommodates use of a three hour period in the CAM plans. As discussed, the PM testing that was conducted pursuant to the approval of the CAM plans shows the individual values for opacity vary. This variability supports the use of a three-hour period in the CAM plans. That is, as related to the state PM standards, it is not unreasonable to identify an excursion that requires corrective actions for the ESP using a three-hour period.<sup>72</sup>

USEPA's proposed ESP CAM Protocol also indicates that, if appropriately justified, CAM plans for ESPs on coal boilers can use a period as long as three hours. As discussed, the PM testing conducted for the coal boilers shows it was reasonable for the source to have selected a period of three hours in its CAM plans:

You may use a different averaging period [longer than one hour], but you must justify a longer averaging time with additional supporting information. Such information will include data showing low emissions and opacity variability and a large margin of compliance under almost all operating conditions. In no case should you select an opacity-averaging time longer than 3 hours.

[USEPA proposed ESP CAM Protocol, p. 6]

V. Comments Regarding Conditions in Sections 7.2, 7.3 and 7.6  
(7.2 - Coal Handling Equipment)  
(7.3 - Coal Processing Equipment)  
(7.6 - Fly Ash Handling Equipment)

1. Permit Condition: 7.2.6(a)(i)  
7.3.6(a)(i)  
7.6.6(a)(i)

a. Comment:

Conditions 7.2.6(a)(i), 7.3.6(a)(i), and 7.6.6(a)(i) pertain to control measures for affected operations for coal handling, coal processing, and fly ash handling equipment. Each of these conditions in the proposed permit states: "The Permittee shall implement and maintain the control measures for the affected [operations/processes]... for emissions of particulate matter to support the periodic monitoring for the applicable [emissions standards]."

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over which a change in control device performance that would require actions by owner or operator to return operations within normal ranges or designated conditions is likely to be observed.

<sup>72</sup> It should be understood that as the CAM plans relate to the state PM standards, they only address excursions and corrective actions relative to these standards. Separate from the CAM plans, the source must take corrective actions for a boiler in response to an excursion of the state opacity standard, 35 IAC 212.123. This standard generally limits opacity to 30 percent on 6-minute average, consistent with the methodology in Method 9. Accordingly, in practice, the source would need to take corrective actions for the boilers to address compliance with the opacity standard well before such actions would be required under the CAM plans relative to the state PM standard.

Portions of these conditions were significantly weaker compared to Joppa's 2005 Draft Permit. The 2005 Draft Permit actually required the permittee to "implement and maintain control measures for the affected [operations/processes]...that minimize visible emissions of particulate matter and provide assurance of compliance with the applicable [emissions standards]." The Statement of Basis for the draft 2016 Permit claims that the "new language would more clearly reflect the objective for these conditions, consistent with [Illinois EPA's] original intent at the time that the initial permit was issued." Statement of Basis for draft 2016 Permit, at 34. However, as discussed in more detail below regarding USEPA's comments on identical changes to these provisions in other proceeding for significant modifications to CAAPP permits (See 2015 Powerton , 2015 Newton and 2015 Waukegan), there are no specific monitoring requirements in Conditions 7.2.6(a)(i), 7.3.6(a)(i), and 7.6.6(a)(i) of the 2015 Permit, even though the Statement of Basis asserts that the intent of these conditions was to support monitoring.

However, we are supportive of the changes to Conditions 7.2.6(a)(i), 7.3.6(a)(i), and 7.6.6(a)(i) compared to the 2005 Permit with those Conditions now applying to all emissions of particulate matter rather than simply visible emissions of particulate matter. We support this broader applicability of these Conditions.

**Response:**

The permit conditions addressed by the comment require the Joppa Station to implement control measures on the affected operations, as well as to "operate and maintain" those measures on an on-going basis.<sup>73</sup> The permit also requires the Joppa Station to create and maintain a list of various control measures being implemented,<sup>74</sup> which are currently identified in the permit as moisture content of the coal and fly ash, dust suppression, enclosures, covers, fogging for coal handling and processing, dust extraction devices for coal handling, an enclosed chute for fly ash and dust collection devices for fly ash,<sup>75</sup> and to apprise the Illinois EPA of revisions to the list.<sup>76</sup> The associated inspection and recordkeeping requirements<sup>77</sup> are designed to ensure that the control measures are being followed. Cumulatively, these control measures, recordkeeping and inspections establish the permit's approach to Periodic Monitoring for these affected operations.

The Illinois EPA established the use of control measures to facilitate Periodic Monitoring for the subject operations. Developed as work practice standards in the initial 2005 permit and retained in the negotiated revisions to the permit,<sup>78</sup> the use

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<sup>73</sup> See, Conditions 7.2.6(a)(ii), 7.3.6(a)(ii) and 7.6.6(a)(ii).

<sup>74</sup> See, Conditions 7.2.9(b), 7.3.9(b) and 7.6.9(b).

<sup>75</sup> See, Conditions 7.2.1 and 7.2.2, Conditions 7.3.1 and 7.3.2, and Conditions 7.6.1 and 7.6.2.

<sup>76</sup> See, Conditions 7.2.9(b)(iii), 7.3.9(b)(iii) and 7.6.9(b)(iii).

<sup>77</sup> See, Condition 7.2.8 and 7.2.9, Condition 7.3.8 and 7.3.9, and Condition 7.6.8 and 7.6.9 respectively.

<sup>78</sup> As previously noted, the requirements for control measures in the revised CAAPP permit are substantially identical to those contained in the initial CAAPP

of control measures was deemed appropriate as one component of Periodic Monitoring for the affected operations.<sup>79</sup> This requirement provided a reliable and enforceable means of verifying compliance with the emission standards that apply to the affected operations (i.e., visible and fugitive emissions).<sup>80, 81</sup> The legal basis for the control measures is derived from the authority of Section 39.5(7)(a) of the Act for the purpose of supporting Periodic Monitoring that does not stem from applicable requirements expressly derived from underlying regulations.

The nature of the permit requirements is analogous to regulatory programs under the Illinois State Implementation Plan<sup>82</sup> and certain New Source Performance Standards.<sup>83</sup> Those programs typically require an affected source to identify best management (or good engineering) practices to minimize emissions as may be needed, or as appropriate, for site conditions. Within the regulatory framework, subject sources retain considerable latitude in selecting the type and suitability of control measures relative to circumstances that directly bear upon the usefulness and/or performance capabilities of those measures. Such flexibility enables sources to address varying types and degrees of site conditions, range of operation and changes in the characteristics of resulting emissions.

In the CAAPP permit, the Illinois EPA's approach to Periodic Monitoring for the affected operations and processes is similar to the regulatory framework described above. However, the Illinois EPA did not require a formal approval process for the selected control measure, or for subsequent changes to the list of control measures. In the absence of underlying regulatory requirements existing in federal or state law, mandating these additional requirements in a Title V permit is potentially outside the scope of Agency authority<sup>84</sup> and, further is arguably unnecessary given

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permit. The changes being made to these conditions depict mostly stylistic changes to the language and do not modify or alter the substantive elements relating to control measures.

<sup>79</sup> The Illinois EPA acknowledges this reasoning in the Responsiveness Summary accompanying the issuance of the initial CAAPP permit, observing that it was requiring the on-going implementation of the work practices and that, together with inspection and recordkeeping, the requirements will assure compliance with periodic monitoring. See, Response to Public Comments for CAAPP Permit Applications for Midwest Generation *et al*, at 33 (September 29, 2005).

<sup>80</sup> See, Conditions 7.2.4, 7.3.4 and 7.6.4.

<sup>81</sup> The requirements contain adequate specificity by acknowledging the type of control measures in use and are practically enforceable by requiring the control measures record and submittal. Notably, these contentions were raised in an earlier proceeding and were rejected by the USEPA. See USEPA order responding to petitions, Midwest Generation (Fisk Generating Station).

<sup>82</sup> See, 35 IAC 212.309.

<sup>83</sup> See, 40 CFR Part 60 Subpart Y.

<sup>84</sup> An attempt to impose such requirements would likely raise legal questions including whether Title V permit authorities may create new substantive requirements and whether mandating the use of certain emission requirements constitutes improper rulemaking. To replicate, through a Title V permit, principal elements of a regulatory program that could not otherwise be imposed on a source as an applicable requirement would likely exceed the scope of gap-filling and/or other implied authorities available to Title V permitting

the limited purpose meant to be served by the control measures (i.e., Periodic Monitoring).

Additionally, because the actual control measures used by Joppa are not set out in the permit, Conditions 7.2.6(a)(ii), 7.3.6(a)(ii) and 7.6.6(a)(ii) in the issued permit specifically refer back to Condition 5.2.8, which incorporates the Control Measures Record into the permit by reference.<sup>85</sup> This makes clear that the control measures that are identified in the Control Measures Record maintained by Joppa are enforceable through the permit.

**b. Comment:**

Significant overlap exists between the 2016 Draft Permit for Joppa and the 2015 Draft Permit for Powerton. USEPA commented on the draft Powerton permit, primarily concerning conditions that cover coal and ash handling equipment. Specifically, USEPA raised concerns with the conditions regarding control measures for coal handling, coal processing, and fly ash equipment, stating that "the draft CAAPP permit does not comply with 40 CFR 70.6(a) because it does not contain sufficient operational requirements to assure compliance with the applicable opacity and PM limits..." Illinois EPA, Responsiveness Summary for the Significant Modification of the CAAPP Permit Issued to Midwest Generation, LLC for the Powerton Generating Station, Sept. 18, 2015 ("Powerton Responsiveness Summary") at 54. Due to identical language, these concerns are just as relevant to Joppa's 2016 Draft Permit. With regard to Powerton, USEPA recommended that Illinois EPA: revise Conditions 7.2.6(a)(i), 7.3.6(a)(i), and 7.6.6(a)(i) to specify the minimum set of control measures for the coal handling, coal processing, and fly ash handling equipment; revise Conditions 7.2.9(b)(i) and (ii), 7.3.9(b)(i) and (ii), and 7.6.9(b)(i) and (ii) to require Illinois EPA to review and approve the selected control measures; and incorporate the specific control measures, including related pertinent information, corresponding to each emission point into the permit during the planned reopening proceeding. *Id.* In response to USEPA, Illinois EPA opted against requiring such a formal approval process for the selected control measures, or making any subsequent changes to the list of control measures, stating that, "mandating these additional requirements...is arguably unnecessary given the limited purpose meant to be served by the control measures (i.e., Periodic Monitoring)." *Id.* at 56.

Similarly, USEPA commented on language in the draft Powerton permit regarding the frequency of the required Visible Emissions (VE) observations from coal handling, coal processing, and fly ash equipment, stating that it is unclear how the "draft CAAPP permit

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agencies. It can be noted that the Illinois EPA will be reviewing relevant material generated pursuant to the permit (e.g., record of control measures) to assure, for purposes of any future permit action, that the use of control measures being implemented by the source is consistent with applicable permit requirements.

<sup>85</sup> For example, Condition 7.2.6(a)(ii) in the issued permit reads as follows, "...which record is incorporated by reference into this permit by Condition 5.2.8."

inspection requirements and frequency of the required VE observations are adequate to yield reliable and accurate emissions data, as required by 40 CFR 70.6(a)(3)(i)(B)," given that the draft permit requires VE observations using EPA Reference Method 22 once per calendar year, even though the majority of the affected equipment operates regularly throughout the year. Powerton Responsiveness Summary at 57. The same issue appears in Joppa's 2016 Draft Permit. With regards to the Powerton Draft Permit, USEPA advised Illinois EPA to include additional monitoring and/or testing to yield the reliable data that assures continuous compliance with applicable opacity and PM limits. *Id.*

In response to USEPA, Illinois EPA defended the infrequent monitoring contained in those conditions. Illinois EPA argued that:

A key component of the Periodic Monitoring is an on-going requirement that the Powerton Station operate and maintain designated control measures for the equipment on an as-needed basis or, similarly stated, as necessary to assure compliance. This obligation, which is required whenever equipment is operating and material is being handled, is now codified in the permit, although various uses of control measures have long been practiced by the Powerton Station and the other utility sources. *Id.* at 58 (references omitted).

Illinois EPA's response to these issues is inadequate for several reasons. First, Illinois EPA claims that the language is "now codified in the permit" but it is unclear what language Illinois EPA is referring to. Conditions 7.2.6(a)(i) and 7.3.6(a)(i) of the Joppa 2005 Draft Permit previously contained the specific language requiring control measures to "provide assurance of compliance" that Illinois EPA may have been referencing in the Powerton Responsiveness Summary, but the language was changed in the 2016 Draft Permit to the following: "The Permittee shall implement and maintain the control measures for the affected [operations/processes] . . . for emissions of particulate matter to support the periodic monitoring for the applicable requirements. . ." Draft Permit at Conditions 7.2.6(a)(i), 7.3.6(a)(i) and 7.6.6(a)(i). That change does little or nothing to address the concern because requiring control measures "to support the periodic monitoring" is as unclear and as unenforceable as control measures "to provide assurance of compliance." Allowing the Permittee to make the decision as to what measures "support periodic monitoring" renders these conditions subjective and, therefore, unenforceable by the Illinois EPA or a citizen who might have a different view as to what would support periodic monitoring. As such, they do not meet the requirements of the CAA.<sup>86</sup> In addition, USEPA's concern that the periodic monitoring requirements are inadequate is not strengthened by a requirement

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<sup>86</sup> USEPA Region 9 Title V Permit Review Guidelines (Sept. 9, 1999), at III-46; see also *In re Cash Creek Generation, LLC*, Permit No. V-09-006, 2012 EPA CAA Title V Lexis 5, \*94-\*96 (USEPA June 22, 2012) (granting petition to object on the grounds that Title V/PSD permit condition was too vague to be enforceable).

for control measures adequate to support periodic monitoring. That simply makes these permit conditions circular.

In the Powerton Responsiveness Summary, Illinois EPA also states that "more frequent observations for visible emissions would not provide useful information." Powerton Responsiveness Summary at 58. It is difficult to comprehend why this would be the case when one of the Joppa draft permit conditions already requires that "[a]s part of the inspections of Condition 7.2.8(a), the Permittee shall perform observations of the affected operation(s) for visible emissions in accordance with 35 IAC 212.107 to demonstrate compliance with the requirements of Condition 7.2.4(b), unless the Permittee elects to perform Reference Method 9 observations in accordance with Condition 7.2.7(a)." 2016 Draft Permit at Condition 7.2.8(b); see also Conditions 7.3.8(b), 7.6.8(b). If observations are useful for confirming compliance with the permit requirements, then more frequent observations would be useful for confirming compliance more frequently. As Illinois EPA pointed out:

[T]he absence of visible emissions is a criterion that will act to simplify the periodic inspections for certain equipment, such as the coal silos which are located in a closed building. For such equipment, the absence of visible emissions will likely readily confirm proper implementation of control measures.

Powerton Responsiveness Summary at 59 (references omitted). Similarly, more frequent observations confirming the absence of visible emissions will more frequently confirm the proper implementation, operation and maintenance of control measures. In sum, the conditions that Illinois EPA pointed to as addressing USEPA's concern are subjective, circular, unenforceable, and do not adequately respond to USEPA's previous comments. USEPA's comment that "it is not clear how the draft CAAPP permit inspection requirements and frequency of the required VE observations are adequate to yield reliable and accurate emissions data, as required by 40 CFR 70.6(a)(3)(i)(B)," Powerton Responsiveness Summary at 57, applies equally here and we reiterate it as to the Reopened Permit.

**Response:**

The earlier USEPA comments cited by this comment do not include facts supporting its claim that the requirements of the permit for formal inspections of the material handling operations would not be adequate. This comment also does not include facts showing that the requirements of the permit would not be adequate and more frequent inspections are needed or appropriate for these operations. As already discussed, the aspect of this CAAPP permit that is relevant to the appropriateness of the required frequency of the inspections of the material handling operations is the requirement that Joppa codify the control measures that it implements for the subject operations. In both the 2015 permit and this revised CAAPP permit, this requirement is addressed in the conditions that follow the subject conditions, i.e., Conditions

7.2.6(a) (ii), 7.3.6(a) (ii) and 7.6.6(a) (ii).<sup>87</sup> The revisions that have now been made to these conditions by the issued permit do not alter the obligation placed on Joppa that it must implement the control measures for the subject operations that it specifies in a written document or record, i.e., the "Control Measures record," that it must prepare and submit to the Illinois EPA. Rather, the changes to these conditions enhance the enforceability of the measures specified by Joppa in the Control Measures Record as this record is incorporated into the permit by reference. In addition, the revised language recognizes that certain control measures, e.g., natural moisture content and enclosure, are not actively "operated" by Joppa. Rather, these measures are more appropriately described as being implemented.

Joppa certainly will and must use its judgment when preparing the Control Measures Record. However, this does not mean that the provisions in the permit that require Joppa to implement the control measures specified in this record are unenforceable. In this regard, the role of the Control Measures Record is to provide definition and certainty as to the measures that Joppa implements for the subject operation. This record also enables a review of those measures by the Illinois EPA or USEPA separate from empirical observations of the levels of opacity or emissions from these operations.<sup>88</sup>

2. Permit Condition: 7.2.6(b)

Comment:

Condition 7.2.6(b) contains requirements and limits for the operation and emissions of "equipment" in the "Coal Yard." This Condition further defines the Coal Yard as "the facility at the source that handles and stores the coal from the rail unloading operation prior to processing in the Crusher House." The draft permit notes at the end of Condition 7.2.6 that that these limits address additional conveyors and other changes to the Coal Yard that were addressed by Construction Permit 90070073. Additionally, according to the permit record, these emission limits were subsequently revised as part of the 2005 CAAPP permit

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<sup>87</sup> In the 2015 permit, these conditions provided that,

The Permittee shall operate and maintain each affected operation with the control measures identified in the record required by Condition 7.[2, 3 or 4].9(b).

In the revised permit that has now been issued, these conditions provide that,

The control measures implemented and maintained shall be identified and operated in conformance with the "Control Measures Record" required by Condition 7.[2, 3 or 4].9(b) (i) to satisfy Condition 7.[2, 3 or 4] (a) (i), which record is incorporated by reference into this permit by Condition 5.2.8.

<sup>88</sup> There are a number of rules that require that sources implement the provisions of certain plans that they themselves prepare. In the NSPS for Coal Preparation Plants, 40 CFR 60.254(c) requires that the owner or operator of a subject open storage pile "...must prepare and operate in accordance with a submitted fugitive dust emission control plan that is appropriate for the site conditions..." In Illinois, 35 IAC 212.302 and 212.309 require certain sources with fugitive emissions from material handling operations to prepare and implement Operating Programs that address the measures that will be used to reduce to those fugitive emissions.

issued to the Permittee.<sup>89</sup> The draft permit further revises those limits and how the subject emission units are identified.

The draft permit does not define or identify the equipment located within the Coal Yard in such a way that the applicable limits are practically enforceable. Specifically, the draft permit does not identify the subject equipment, and the definition of the Coal Yard does not provide a clear means of identifying the subject equipment. Therefore, the draft permit does not assure compliance with all applicable requirements as required by 40 CFR 70.1(b). The permit must be revised to describe the subject equipment in sufficient detail to enable the public, regulatory authorities, and the Permittee to determine which emission units are subject to the requirements of Condition 7.2.6(b).<sup>90</sup>

**Response:**

**In the issued permit, the equipment at the Coal Yard that is being addressed by Condition 7.2.6(b) is more clearly identified. This condition now includes a listing of the specific conveyors and equipment that were addressed by Construction Permit 90070073 that are being addressed by the limits in this condition:<sup>91</sup>**

**For the purpose of this condition, the Coal Yard is the facility at the source that stores coal prior to processing in the Crusher House. The coal transfer operations in the Coal Yard that are addressed by this condition consist of Pile Feed Conveyors C-62, C-63, C-64 and C-65, the North, Central and South Stacking Tubes and the North, Central and South Coal Reclaim Pits and associated Reclaim Conveyors C-23D, C-24D and C-25.**

- 3. Permit Condition:           7.2.9  
                                      7.3.9  
                                      7.6.9**

**Comment:**

The Control Measures Record includes primary control measures and, for certain emission sources, secondary control measures. However, the Control Measures Record is set up such that the source "may" operate the secondary control measures when there is "greater than

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<sup>89</sup> Illinois EPA appears to have used the "Tl R" procedures, as provided for in a Memorandum of Understanding between Region V of the U.S. Environmental Protection Agency and the Illinois Environmental Protection Agency, dated February 14, 2000, to revise these Title I limits.

<sup>90</sup> Construction Permit 90070073 contains an acceptable description of the equipment in the Coal Yard. Illinois EPA could use those descriptions to identify the subject equipment in the draft permit.

<sup>91</sup> This equipment does not include the newer equipment that was installed when the refined coal facility was constructed at the Joppa Station pursuant to Construction Permit 12120017. This newer equipment includes a conveyor that transfers coal diverted from reclaim conveyors to the refined coal facility (Conveyors U2200) and a conveyor that returns refined coal to a reclaim conveyor (U5100), including the transfer points for both these conveyors and their associated control devices. This equipment will be addressed in the CAAPP Permit issued to Joppa Refined Coal for the refined coal facility, CAAPP Permit 14060030.

normal dusting." The draft permit's use of the term "may" in this context suggests that the secondary control measures are optional even when the primary control measures are ineffective. This issue is of concern because compliance with the applicable PM and opacity limitations may not be possible at times unless the secondary control measures are employed. To ensure that the control measures provide the necessary level of emission control to maintain continuous compliance with applicable requirements, the Control Measures Record should be revised so that the secondary control measures must be used to supplement primary control measures whenever the primary control measures are ineffective at minimizing emissions, as required by 40 CFR 70.6(a).

As discussed above, the Control Measures Record allows the source to implement the secondary control measures when "handled coal is unusually dry and causes greater than normal dusting." The Illinois State Implementation Plan (SIP), Control Measures Record, and the draft permit do not define the term "greater than normal dusting." Without additional explanation as to what "greater than normal" means, it is not clear to the source, the public, or IEP A when the source should implement the secondary control measures. Terms for demonstrating compliance with applicable requirements must be clearly described so that the permit language is clear and enforceable as a practical matter. IEP A must revise the permit and/or Control Measures Record to define the term "greater than normal dusting" or revise the language such that the events that require the implementation of the secondary control measures are clear and enforceable. The language must ensure that the source can demonstrate continuous compliance with applicable emission limitations. Illinois EPA could resolve this issue by including the following language in the permit or Control Measures Record: "The source must operate the secondary control measures whenever the primary measures are unable to prevent visible emissions." In the alternative, Illinois EPA could include language which requires the source to use secondary control measures to supplement primary control when coal is unusually dry, and, absent its use, there would be an exceedance of an applicable standard.

**Response:**

**In response to this comment, the Illinois EPA has worked with Electric Energy to develop a revised Control Measures Record that does not include the phrase "greater than normal dusting" and the word "may."**

**In the revised Control Measures Record that is incorporated into the issued permit, secondary control measures will be used when the coal being handled is dryer than normal, such that the use of secondary control measures is needed to comply with applicable standards. Water sprays and water fogging sprays, which were identified as primary control measures for certain coal handling operations but not used when the coal was "overly wet," are also now identified as secondary control measures. This more appropriately addresses these water sprays and water fogging sprays as they would only be used in certain circumstances. Lastly,**

water sprays and water fogging sprays are all also identified as secondary control measures as they would only be used in certain circumstances, i.e., when the temperature is above freezing and the coal is dry so that use of secondary control measures is needed.<sup>92</sup> These changes provide greater clarity as to the circumstances in which secondary control measures would be used

It is also unclear how 40 CFR 70.6(a) acts to dictate that Joppa must use either primary or secondary control measures for its material handling operations to minimize emissions, as claimed by this comment. 40 CFR 70.6(a) addresses a variety of standard provisions that must be included in a Title V permit, including requirements for Periodic Monitoring. However, Periodic Monitoring does not dictate that sources must minimize emissions of units below the levels that are needed for compliance.<sup>93</sup>

## VI. Responses Regarding Conditions in Section 7.6 of the Permit (Fly Ash Handling Equipment)

### 1. Permit Condition: 7.6.6(b)

#### Comment:

Condition 7.6.6(b) contains emission limits for the fly ash silos and wet mixing system and are expressed as: tons per month, tons per year, and as an emission factor in pounds per ton.<sup>94</sup> Compliance with annual limits for each category of equipment is "determined from a running total of 12 months of data."<sup>95</sup> Condition 7.6.6(b)(ii). The draft permit notes that these limits were established through Permits 93070073 and 09020049. To demonstrate compliance with these emission limits, Condition 7.6.9(g) requires the Permittee to "keep records for PM emissions of the fly ash

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<sup>92</sup> The initial Control Measures Record, which would have been incorporated by the draft permit, provided that "sprays may not be operated at ambient temperatures approaching or below freezing, when their operation could pose a safety risk or cause equipment damage." Upon further consideration, it was recognized that the specific concern for these control measures that was being addressed was freezing of water on surfaces and in piping and spray equipment. This would inherently occur only during freezing or cold weather, which is when the received coal would retain its natural surface moisture. Accordingly, water sprays and water fogging sprays only need to be addressed as secondary control measures, which would potentially be used during warmer weather when the coal handled by the plant may be dryer than normal.

<sup>93</sup> With respect to Periodic Monitoring, 40 CFR 70.6(a)(3)(B), provides that

Where the applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit...

<sup>94</sup> An emissions factor is a representative value that attempts to relate the quantity of a pollutant emitted with an industrial activity.

<sup>95</sup> EPA interprets the term "running total", as used within the context of this permit, to mean the sum of 12 consecutive months of emissions determined monthly for the prior 12 months.

batch mixer (tons/month and tom/year) based on the records required by Condition 7.6.9(b)(ii) and 7.6.9(c)." However, the draft permit and permit record do not provide an explanation as to how the Permittee will demonstrate compliance with the limits expressed as emission factors in Condition 7.6.6(b)(ii). Additionally, it is unclear from the draft permit how the other limits (tons/month and tons/year) were developed.

The permit conditions requiring the Permittee to keep records for PM emissions are not sufficient to assure compliance with the emission factor limits. The permit conditions do not specify a preliminary set of Illinois EPA-approved emission factors or equations that will be used by the Permittee to demonstrate compliance, how the emission factors or equations were derived, whether the emission factors or equations are indicative of the emissions at the source, or an explanation of why use of the emission factors or equations is adequate to assure compliance with the emission factor, tons/month and tons/year limits. *See, In the matter of United States Steel Corporation -Granite City Works (USGU}*, Petition Number V-2011-2 (December 3, 2012) (*US. Steel*), at 9-12. The draft permit must be revised to specify the equations that will be used along with supporting information regarding the emission factors that will be used, and if necessary, testing or other monitoring methods to verify the emission factors on an ongoing basis, as needed.

**Response:**

In response to this comment, the issued permit makes clear that the "emission factors" addressed by this comment, which are expressed in terms of emissions per ton of material handled, are emission limits and not traditional emission factors.<sup>96</sup> This makes clear that Electric Energy cannot simply determine compliance with the emission limits for fly ash handling equipment that are expressed in tons/month and tons/year by multiplying the specified "emission factors" by the amount of fly ash that was handled. In particular, Condition 7.6.6(b)(ii), which contains the relevant emission limits for the fly ash handling operations, now also states that:<sup>97</sup>

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<sup>96</sup> The principal purpose of traditional emission factors, as found in USEPA's *Compilation of Air Pollutant Emission Factors*, is to facilitate making estimates of emissions from different types of emission units. As such, a key aspect of the reliance on such emission factors to represent the actual emissions of a particular emission unit is that the unit is actually of the type addressed by the published emission factor, the unit has been properly designed and constructed, and, in actual practice, the unit is properly operated and appropriately maintained.

Incidentally, for the fly ash handling operations, these aspects of the use of traditional emission factors are addressed by the permit. This is because the permit provides that the basis for determining compliance with the relevant emission limits must be appropriate or credible emission factors.

<sup>97</sup> In addition, the note accompanying this condition would no longer include the following explanatory statement. As discussed in this comment, this statement might be misconstrued as a finding that the specified emission factors have been determined to be appropriate by the Illinois EPA and are to be used to determine actual emissions.

For the dry ash handling equipment, for which control devices are used, these emission limits are based on USEPA emission factors in Table 11.12-2 of AP-42 for handling of Portland cement at concrete batch plants, with the application of

Compliance with these limits shall be determined using appropriate emission factors developed from factors in USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, or other credible factors from a recognized source...

This comment does not justify other changes to permit to address ongoing compliance with the emission factor limits. Electric Energy is required to maintain a demonstration that confirms that the subject operations can comply with these limits (Condition 7.6.9(b)(ii)). It must keep records identifying the control measures that are used for the subject operations as are relevant for compliance with both the subject limits and other requirements that apply to the subject operations (Condition 7.6.9(b)(i)). It must also conduct inspections and keep records to address the implementation of those control measures (Condition 7.6.8(a) and Conditions 7.6.9(a)(iii), (d) and (e)).

2. Permit Condition: 7.6.7(b)(v)  
Related Condition(s): 8.6.3

**Comment:**

Condition 7.6.7(b)(v), which governs opacity observation requirements for fly ash handling operations, omits several key reporting requirements. The Draft Permit does not require Electric Energy to submit information on the sampling points, the sampling train, detailed data and calculations, records of laboratory analyses, sample calculations, data on equipment calibration, and representative opacity data measured during testing, at least to the degree that such data varies over time. Although Condition 7.6.7(b)(v) references Condition 8.6.3 of the Draft Permit for reporting requirements, Condition 8.6.3 also does not require any of this eliminated information. Note that Condition 8.6.3(f) of the draft permit requires "[t]he results of the tests including raw data, and/or analyses including sample calculations" (emphasis added). Thus, under Conditions 7.6.7(b)(v) and 8.6.3 of the Draft Permit, applicants only need to provide raw data or analyses including sample calculations, not both. It is important for Electric Energy to submit more, rather than less, information on its opacity observations. Providing more detailed information allows Illinois EPA to verify that these observations are being properly conducted and PM pollution is being kept to a minimum. If Electric Energy is not required to allow Illinois EPA and the public an opportunity to closely examine this information, there may be an error in observation processes or results that may go unnoticed, potentially resulting in preventable pollution. Thus, Illinois EPA should act to include these requirements or explain more fully why they were omitted.

**Response:**

**It was appropriate for this condition, which addresses the content of reports for PM stack testing conducted on any stacks or vents**

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control efficiencies of 95 and 99 percent, respectively, for loading of silos and load out.

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of fly ash handling processes, be revised as planned.<sup>98, 99</sup> A comparison of the required contents of reports for this testing suggested by this comment and the draft permit shows that relevant information would still appropriately be required in these test reports. In this regard, the comment suggested that these reports must include the information specified in Condition 8.6.3 and certain other information. However, this information specifically identified duplicated information required by Condition 8.6.3 or was not needed for these reports. This has been corrected in the issued permit.

In particular, information on the sampling points and the sampling train is required to be included in test reports by Condition 8.6.3(e) as it requires that test reports include information on the test and analytical methodology used. Laboratory analyses are addressed as information on analytical methodology is required. Information on equipment calibration is required as equipment calibration is an aspect of the applicable methodology. Condition 8.6.3(f) requires test reports to include detailed data and sample calculations for testing. Opacity during PM testing is not required to be measured by Condition 7.6.7(b) so a requirement for reporting of such data during PM testing is not appropriate.<sup>100</sup>

In the issued permit, Condition 8.6.3(f) has been reworded so that it cannot be interpreted to require either raw data or sample calculations, but not both, in the manner suggested by this comment. Both raw data and sample calculations are now required

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<sup>98</sup> This comment incorrectly indicated that Condition 7.6.7(b) (v) addresses reporting for observations of opacity, not for testing for PM emissions. In fact, requirements for opacity observations for fly ash handling processes are addressed in Condition 7.6.7(a) and have not changed. Nevertheless, the Illinois EPA has responded to this comment as it generally indicated that there were flaws in the planned changes to Condition 7.6.7(b) (v).

<sup>99</sup> With respect to opacity observations for the fly ash handling processes, this comment also stated the following (emphasis added):

It is important for Electric Energy to submit more, rather than less, information for its opacity observations. Providing more detailed information allows the Illinois EPA to verify that these observations are being properly conducted and PM pollution is being kept to a minimum. If Electric Energy is not required to allow the Illinois EPA and the public an opportunity to closely examine this information, there may be an error in observation processes or results that may go unnoticed, potentially resulting in preventable pollution.

In fact, the information that must be included in reports for opacity observations is fully addressed by Condition 7.6.7(a) (v). Among other things, this condition requires that such reports include: 1) A description of observation conditions, including recent weather; 2) A description of the operating conditions of the subject processes; 3) Raw data; 4) The determinations of opacity; and 5) Conclusions.

Moreover, as already discussed, it is appropriate to consider the opacity observations that are required to be a form of performance testing, whose role is to authoritatively confirm compliance. It is not realistic to anticipate that these observations would reveal exceedances of the opacity standard.

<sup>100</sup> If representative opacity data during emission testing were determined to be needed, the Illinois EPA would require the source to conduct such opacity observations, as is provided for by Condition 7.6.7(a) (i) (C). The report for those opacity observations would be addressed by Condition 7.6.7(a) (v).

for the various tests and analyses that are entailed in the testing of the emissions of particular emission units.<sup>101</sup>

3. Permit Condition: 7.6.8(a)

Comment:

Inspections are a crucial element of ensuring that permit holders demonstrate reasonable assurance of compliance with all state and federal laws. Otherwise, reduced inspection standards create the risk of unsafe operating conditions by either perpetuating issues that already exist, or allowing preventable issues to develop.

Unfortunately, Condition 7.6.8(a) of the Draft Permit only requires Electric Energy to inspect loadout operations on a weekly basis; all other processes need only be inspected on a monthly basis. Draft Permit at Condition 7.4.8(a)(i)-(ii). Illinois EPA should require Electric Energy to conduct weekly inspection of these processes to avoid process emission units that handle fly ash from malfunctioning for several weeks. Illinois EPA should, therefore, include in the Draft Permit a weekly fly ash handling inspection requirement.

Response:

As discussed, it is appropriate that the formal inspections of the operations at Joppa that handle fly ash within the plant be conducted on a monthly basis. Opacity observations have been conducted for the various fly ash handling operations at certain other coal-fired power plants in Illinois that support changing the frequency of required inspections for these operations to monthly. Formal inspections on a weekly basis are only warranted for the fly ash load out operation. It poses concerns for proper function that are not present for the other operation. It was also the only fly ash handling operation from which any opacity was observed. While the measured opacity was small, maximum 3.33 percent, the presence of measureable opacity also supports keeping the formal inspections for fly ash load out on a weekly basis.

4. Permit Condition: 7.6.10(a)(ii)

Comment:

There are several problems with Condition 7.6.10(a)(ii) of the Draft Permit. This Condition requires Electric Energy to notify Illinois EPA of incidents in which it continued to operate process emission units that handle fly ash for more than 12 operating hours "after discovering that emission control measures required by the record identified in Condition 7.6.9(b)(i) were not present or operating." However, Condition 7.6.9(b)(i) of the Draft Permit does not delineate what specific emission control measures are actually required. Rather, it requires Electric Energy to record a description of the "primary" and "secondary" control measures. Condition 7.6.9(b)(i)(B)-(C) of the Draft Permit. This is concerning because under Condition 7.6.10(a)(ii), the permittee is only required to report the absence or malfunction of specified

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<sup>101</sup> In the issued permit, Condition 8.6.3(f) requires that emission test reports include "The results of the tests and/or analyses, with raw data and sample calculations."

control measures: if no control measures are specified in Condition 7.6.9(b)(i), then the permittee is relieved of the reporting requirement in Condition 7.6.10(a)(ii).

Condition 7.6.10(a)(ii) is also problematic because it only requires reporting when control measures are not present or operating, rather than when control measures are not in compliance with applicable requirements. Limiting the permittee's responsibility to report instances of noncompliance reduces the volume of information Illinois EPA receives regarding violations of the Plant's operating conditions. Obviously, noncompliance is not a matter that should be treated lightly or go unreported.

Finally, Condition 7.6.10(a)(ii) of the Draft Permit requires reporting after 12 operating hours. This length of time lessens Illinois EPA's (and the public's) understanding of compliance problems at the plant. The Draft Permit should be revised to a shorter four-hour reporting trigger.

**Response:**

The change made to this condition is appropriate. As discussed elsewhere, the nature of the material handling operations at Joppa for which the CAAPP permit requires "use of control measures" is such that the specific measures that the source implements need not be defined in the permit. These measures may be appropriately defined in the "Control Measure Record(s)" that the source must maintain.

The source will need to implement control measures for fly ash. Fly ash is a fine, dry material. It is not reasonable to expect that fly ash handling operations could comply with applicable emission standards without implementing any control measures. The situation put forth by the comment, that the source would not implement any control measures for fly ash handling operations, is wholly hypothetical.

For the fly ash handling operations, pursuant to Condition 7.6.10(a) (iii), the source must generally report deviations from applicable requirements, including deviations from emission standards, in a quarterly report. The condition addressed by this comment, Condition 7.6.10(a) (ii), addresses incident-specific reporting that is required for certain deviations involving control measures. In this regard, Condition 7.6.10(a) (ii) refers to deviations from the requirement for implementation of control measures, Condition 7.6.6(a). As drafted, Condition 7.4.10(a) (ii) would require this incident-specific reporting for deviations in the use of control measures that are longer than 12 hours. The applicable emission standards that apply to the fly ash handling operations are addressed in Condition 7.6.4. Reporting of deviations from these standards, as well as for deviations involving control measures for which incident-specific reporting is not required, is addressed in Condition 7.6.10(a) (iii).

Accordingly, the relevant issue posed by the change to Condition 7.6.10(a) (ii) is whether it is reasonable to change the period of time before a deviation involving control measures must be

individually addressed in an incident-specific report rather than reported in a quarterly report. The Illinois EPA has concluded that it is not unreasonable to increase this time period as requested by this comment. Incident-specific notification for deviations that continue for more than 12 hours, rather than only for 4 hours, will still require such notifications for deviations that are most worthy of individual attention by the Illinois EPA. Deviations that continue from one day to the next will still be required to be individually reported. At the same time, the information that the source must report for deviations involving implementation of control measures will not be meaningfully affected. The source must still address all such deviations in a quarterly report.

**F. GENERAL COMMENTS WITH RESPONSES BY THE ILLINOIS EPA**

**1. Comment:**

The Draft Permit's reporting and operational requirements during periods of startup, shutdown, and malfunction ("SSM") of the plant are unlawful and are now actively being replaced across the country. Illinois EPA is apparently relying on SSM provisions in the Illinois SIP that are based on the previous national SSM rule. However, SSM exemptions from emission limits as a category run contrary to the Clean Air Act, as determined by recent federal decisions on the topic and as manifested by USEPA's recent SSM SIP call, because they undermine the protection of the national ambient air quality standards ("NAAQS") and other fundamental requirements of the Clean Air Act. See *USEPA, State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction* (May 25, 2015). The current Illinois SSM SIP has been explicitly invalidated, and the state was obligated to propose a replacement SSM SIP by November of last year. That it has not yet done so does not remove the obligation to comply with the Clean Air Act's mandate that pollution during SSM periods may not be exempted from emission limits.

Accordingly, the current SIP cannot serve as a legitimate basis for Illinois EPA's terms in this Draft Permit. We therefore urge Illinois EPA to rescind its explicit allowances for exceedances of emission limits during SSM periods; in the alternative, to establish "sunset" provisions in this permit automatically eliminating all SSM permit terms as soon as the SIP provisions upon which they are based are replaced; or, at the very least, to commit to an immediate and automatic reopening process when the SSM SIP provisions are replaced.

Any exemptions to emission limitations, for whatever reason, are contrary to the Clean Air Act and to USEPA's longstanding policy that emission limitations must apply and be enforceable at all times. The Clean Air Act specifies that SIPs must include enforceable "emissions limitations," and further requires that these "emissions limitations" apply on a "continuous" basis. 42

USC 7410(a)(2)(A), (a)(2)(C), 7602(k).<sup>102</sup> Exceptions allowing facilities to emit additional pollutants by operating during SSM events prevent the "continuous" enforcement of emission limits. Thus, they conflict with the plain language requirement of CAA § 110(a)(2)(A) as defined by CAA § 302(k). Any exemptions also rob USEPA and the public of their enforcement power in violation of the enforcement provisions in sections 113 and 304 of the Act.

Exempting emissions also conflicts with the core purpose of the Clean Air Act. USEPA recognizes its "overarching duty under the [Clean Air Act] to protect public health through effective implementation of the NAAQS." USEPA Memorandum to Docket EPA-HQ-OAR-2012-0322, at 9. Startup, shutdown and malfunction events result in short-term releases of a large amount of pollution, including releases of sulfur dioxide and nitrogen oxides, as well as other toxic and carcinogenic pollutants, in amounts that are many times above the legal limits. See Env'tl. Integrity Project, *Gaming the System: How Off-the-Books Industrial Upset Emissions Cheat the Public Out of Clean Air*, at 5-8 (Aug. 2004).<sup>103</sup> Though there is a paucity of data on excessive emissions events,<sup>104</sup> a 2004 study by the Environmental Integrity Project shows that excess pollution released during SSM events can actually exceed the "normal" annual amount of pollution that facilities report otherwise.

In short, continuous and enforceable emission limits are the only way to ensure protection of ambient air quality standards. As USEPA noted in its new SSM rule, "SIPs are ambient-based standards and any emissions above the allowable [ambient concentration] may cause or contribute to violations of the national ambient air quality standards." USEPA Memorandum to Docket EPA-HQ-OAR-2012-0322, at 9 (citing 1982 SSM Guidance). Continuous and enforceable limits also ensure that pollution sources continue to have a strong incentive to operate using best practices and to invest in appropriate pollution controls and equipment. 78 Fed. Reg. at 12,485.

The D.C. Circuit has held that any affirmative defenses whatsoever against enforcement of emission limitations are inconsistent with the Act. *Nat. Res. Def. Council v. E.P.A.*, 749 F.3d 1055, 1063 (D.C. Cir. 2014). In April of 2014 in *Nat. Res. Def. Council*, the D.C. Circuit struck down the affirmative defense provisions in regulations allowing cement plants to avoid monetary liability for violations of emission standards during unavoidable malfunctions. *Id.* at 1064. In so holding, that court noted that the Act's citizen suit and civil penalty provisions, sections 304 and 113,

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<sup>102</sup> Recent court decisions also have emphasized that emission limits must be continuous according to the plain language of the Act. EPA Memorandum to Docket EPA-HQ-OAR-2012-0322, at 4, n. 10 (Feb. 4, 2013) (citing *Sierra Club v. Johnson*, 551 F.3d 1019 (D.C. Cir. 2008) & *U.S. Magnesium, LLC v. EPA*, 690 F.3d 1157, 1160 (10th Cir. 2012)).

<sup>103</sup> Available at [http://www.environmentalintegrity.org/news\\_reports/Report\\_Gaming\\_System.php](http://www.environmentalintegrity.org/news_reports/Report_Gaming_System.php).

<sup>104</sup> A 2012 report from the Louisiana Bucket Brigade concluded that "[o]ver 20% of reports across all refineries contain no information about the accident, what was released, how much, what caused the accident and what will be done to prevent it in the future." Louisiana Bucket Brigade, *Common Ground IV*, at 1 (2012).

make the question of what civil penalties, if any, are appropriate in a citizen suit enforcement action a question for district courts to decide, not USEPA. *Id.* at 1063. The court thus found that USEPA had no authority to create the affirmative defense. *Id.* at 1064. In response to this ruling, USEPA also has made clear the unlawfulness of allowing unenforced, unrestricted emissions during SSM in its new SSM rule. In that rule, USEPA states that emission limits apply at all times, including during SSM events, and no affirmative defenses to enforcement may be employed. USEPA, *State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction* (May 25, 2015).<sup>105</sup>

**Response:**

As already discussed, the USEPA's SIP Call for SSM does not support the changes to the CAAPP permit for Joppa that this comment recommends. Provisions of approved SIPs are not invalidated or directly altered by the SIP call, as claimed by this comment. USEPA clearly recognized this in the preamble to the SIP call stating:

When the USEPA issues a final SIP call to a state, that action alone does not cause any automatic change in the legal status of the existing affected provision(s) in the SIP. During the time that the state takes to develop a SIP revision in response to the SIP call and the time that the EPA takes to evaluate and act upon the resulting SIP submission from the state pursuant to CAA section 110(k), the existing affected SIP provision(s) will remain in place.  
80 FR 33840 (June 12, 2015)

The SIP Call requires appropriate rulemaking by affected states and jurisdictions, not source-by-source actions during permitting.<sup>106</sup> For Illinois, until the Pollution Control Board completes such rulemaking<sup>107</sup> and this rulemaking is approved

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<sup>105</sup> Available at <http://www.epa.gov/air/urbanair/sipstatus/docs/20150522fr.pdf>.

<sup>106</sup> As discussed in this comment, USEPA has reconsidered the provisions that address the potential for "excess emissions" during SSM in the SIPs of a number of states and local jurisdictions, including Illinois' SIP. USEPA has now found that many of these existing SIP provisions, including the relevant provisions of Illinois rules dealing with startup and malfunction and breakdown events, which USEPA had previously approved, are inconsistent with provisions of the CAA.

Parallel with its SIP Call related to SSM events and its work with affected states and other jurisdictions on revisions to their SIPs, USEPA is also committed to undertaking rulemaking to revise a number of federal emission standards that it adopted. These standards must also be revised so they appropriately address emissions during SSM.

<sup>107</sup> In Illinois, this rulemaking would involve a proceeding before the Pollution Control Board in which the Illinois EPA, potentially affected sources and interested members of the public could all participate.

by USEPA as revision to Illinois' SIP, CAAPP permits must implement the provisions of the current SIP.<sup>108</sup>

It is also not appropriate for this CAAPP permit to include "sunset provisions" or otherwise address the transition between the current SIP and the revised SIP. This is because this transition and other actions that are appropriate in Illinois to respond to the SIP call will necessarily be an aspect of the rulemaking for the required revisions to the Illinois SIP.<sup>109</sup>

This comment does not identify any deficiencies in the conditions of the permit that deal with SMB as compared to the relevant provisions of Illinois' current SIP that address SMB. The discussion in the Statement of Basis referred to by

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<sup>108</sup> 35 IAC 201.149 prohibits startup (S) of an emission unit or continued operation of an emission unit during malfunction or breakdown (MB) if such operation would cause a violation of an applicable state emission standard absent express permit authorization for such violation. This rule does not address potential violations of SIP limitations during shutdown. Accordingly, changes to Illinois' SIP related to shutdown are not actually required by the SIP Call, only for startups and "malfunction and breakdown" events, more simply referred to as "malfunctions" by USEPA in the SIP call.

35 IAC 201 Subpart I sets forth a two-step process for addressing compliance with state emission standards during SMB. The first step consists of obtaining authorization by means of a permit application to make a future claim of SMB. The second step involves making a viable claim of SMB. For startup, this consists of showing that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such an event. For MB, this consists of showing that continued operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. Inherent in this showing is the obligation to show that operation and excess emissions occurred only to the extent necessary.

Electric Energy sought SMB authorizations for certain units at the Joppa Station. The Illinois EPA reviewed these requests and, as appropriate, granted authorizations in the CAAPP permit for Joppa to make claims of SMB. These authorizations do not equate to an "automatic exemption" from otherwise applicable state standards. These authorizations are fully consistent with long-standing practice in Illinois for permitting and enforcement. In particular, the nature of the coal utility boilers is such that certain excess emissions may occur during SMB that a source cannot reasonably avoid or readily anticipate. However, the source may be held appropriately accountable for excess emissions that should not have occurred regardless of the authorizations in a CAAPP permit related to SMB. In summary, the provisions in the CAAPP permit related to SMB do not translate into any advance determinations related to actual occurrences of excess emissions. Rather, they provide a framework whereby the source is provided with the ability to make a claim of SMB, with any such claim being subject to further review.

<sup>109</sup> The SIP Call does not simply mandate that current provisions for SSM in the subject SIPs be eliminated and that the current short-term emission standards in SIPs be made applicable at all times. Rather, the SIP Call requires that SIPs be revised so that they appropriately address SSM events. USEPA recognized that a number of different approaches may be possible and appropriate to address various types of emission units and their possible circumstances.

One possible approach recognized by the SIP Call is the adoption of "alternative emission limitations" or emission standards for SSM events. The adoption of such alternative limitations, as contemplated by the SIP Call, would be a task that would also be carried out through rulemaking. Accordingly, while it is correct that certain provisions of Illinois' SIP dealing with SMB events have now been found by USEPA to be inconsistent with the Clean Air Act, both the revisions to the current provisions and the transition to the new provisions must proceed through the rule of law.

this comment, which addresses certain planned changes to the wording of various permit conditions, involves provisions related to control measures for material handling and processing operations.<sup>110</sup> The discussion does not address conditions of the permit that deal with SMB and the provisions for Illinois' current SIP for SMB.<sup>111</sup>

In addition, as already explained, the SIP call is not based on a quantitative evaluation by USEPA of the impacts on ambient air quality of extra emissions during SSM events. Rather, the SIP call is based on a reassessment of the language of the CAA by USEPA, as guided by various court decisions related to SSM events.

Information has also not been provided to support the claim that the emissions of coal power plants associated with SSM events are significant. The study that has been cited to support this claim, *Gaming the System: How Off-the-Books Industrial Upset Emissions Cheat the Public Out of Clean Air*, does not address coal-fired power plants.<sup>112</sup>

2. Comment:

On September 5, 2014, the Illinois EPA and USEPA Region 5 entered into a Work Plan<sup>113</sup> in part for the purpose of "significantly reduc[ing] the Clean Air Act Permit Program permit backlog." The Work Plan covers the years of 2014-2016 and contains commitments by the Illinois EPA related to the Title V permitting program. Even with the permitting burden reduced by the recent loss of two

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<sup>110</sup> The discussion in the Statement of Basis referred to by this comment addresses Conditions 7.2.6(a)(i), 7.3.6(a)(i) and 7.4.6(a)(i). These conditions address the measures that are used for control of particulate matter emissions from coal handling operations, coal processing operations and fly ash handling operations.

<sup>111</sup> It should also be recognized that the challenge of permit conditions made by this comment does not fall within the scope of revisions made in this proceeding to resolve the appeal of the initial CAAPP permit. Effectively, this comment challenges the validity of certain conditions in the initial CAAPP permit that implemented Illinois rules for startups and malfunction/breakdown events. This proceeding is governed by the applicable requirements of Title V and Illinois' CAAPP program, which act to limit the scope of review to the revisions that would be made to the CAAPP permit.

<sup>112</sup> It is also noteworthy that applicable emission standards for boilers commonly address the rate of emissions of a pollutant relative to the heat input to the boiler, the concentration of a pollutant in the exhaust stream of the boiler or the steam or energy output from a boiler. These standards reflect regulatory determinations of emission rates that are achievable by various classes of boilers with appropriate design, operating practices and control devices. These emission standards only indirectly address the mass of emissions going to the atmosphere, in pounds/hour. The actual mass emission rate, in pounds/hour, at any time depends on the load or heat input to the boiler, as well as the relative emission rate, in pounds/million Btu heat input or ppm, at that time. If the load of a boiler is low during a period of time or an upset, the actual mass emission rate may be lower than the typical mass emission rate even if the relative emission rate is higher than the typical rate. This also means that violations of emissions standards that are set for boilers based on considerations of emission control technology are not synonymous with elevated concentrations of pollutants in the atmosphere or exceedances of ambient air quality standards.

<sup>113</sup> Illinois Program Work Plan for Calendar Years 2014-2016, Agreement Between Illinois Environmental Protection Agency and Region 5, U.S. Environmental Protection Agency (September 5 2014) (Work Plan). The Work Plan was signed by the Director of the Illinois EPA, Lisa Bonnett, and the USEPA Regional Administrator, Susan Hedman, at that time.

of Illinois' coal-fired power plants by retirement and conversion to natural gas, the Illinois EPA is far from meeting the schedule that it committed to in the Work Plan.<sup>114</sup> The Illinois EPA's abject failure to meet its commitment in the Work Plan continues to deprive the public of the protections offered by updated Title V permits containing all applicable requirements.

**Response:**

**As observed by this comment, the schedule in this Work Plan for processing CAAPP permits for Illinois' coal-fired power plants was not realistic. The Illinois EPA is now working with USEPA on a more realistic approach for processing these CAAPP permits. This approach narrowly focuses on the timing of the next steps that the Illinois EPA will take to process the permits for the particular plants that are currently being worked on.**

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<sup>114</sup> When this Work Plan was signed, only the revised CAAPP permits resolving the appeals of the initial permits for the Coffeen and CWLP plants had been issued. In the Work Plan, the Illinois EPA agreed to complete the process of reopening and issuing revised CAAPP permits for these plants. The Illinois EPA also agreed that by the end of 2016 it would complete the process of resolving the appeals of the initial CAAPP permits and issuing reopened permits for the other 12 coal power plants then remaining in Illinois. However, the Illinois EPA has only issued CAAPP permits that resolve the appeals for four more plants and has not completed any reopening of the CAAPP permits for these plants.

## ATTACHMENT 1:

### CHANGES BETWEEN THE DRAFT PERMIT AND THE ISSUED PERMIT

#### Condition 5.2.8(a)(iii)

New Condition 5.2.8(a)(iii) to the broader "incorporation by reference" of the Control Measures Record is created for revisions to the Control Measures Record for 1) Coal Unloading from rail car, 2) Wind erosion from the coal storage piles; and 3) Dry fly ash load-out from working silos and storage silos. These operations were identified on the basis of their potential for emissions, as they are the only operations addressed by the Control Measures Record whose emissions could, as a practical matter, exceed applicable standards. For such operations, changes to the Control Measures Record affecting the nature, application or frequency of the relevant control measures will not be automatically incorporated into the permit but, instead, will require an appropriate permit revision.

Note: Condition 5.2.8(a)(i) in the draft permit was divided into two conditions which are Conditions 5.2.8(a)(i) and (ii) in the issued permit. Condition 5.2.8(a)(ii) in the draft permit is now Condition 5.2.8(a)(iv) in the issued permit.

#### Condition 6.5.4(a)(iii)

The origin and authority for this condition from 40 CFR 63.10000(c)(1)(v) was added to this condition in the issued permit. This was inadvertently omitted from this condition in the draft permit.

#### Condition 7.1.7(b)(ii)

This condition was revised as a result of responding to a comment regarding the common stacks at Joppa

#### Condition 7.1.9(c)(ii)(B)

This condition was deleted from that permit as previously addressed in this responsiveness summary.

#### Condition 7.1.11

Condition 7.1.11 was revised to address a comment related to the use of alternative fuels as previously addressed in this responsiveness summary. Condition 7.1.5(e) was also revised to further clarify that the issued permit is based on the affected boilers not being subject to 40 CFR 60 Subpart CCCC.

#### Conditions 7.1.13-1 and 7.1.13-2

These conditions now provide for full approval of the CAM plan, rather than conditional approval, in response to comments discussed in the body of this responsiveness summary. (e.g., Draft Conditions 7.1.13-1(a) and 7.1.13-2(a) and (b) that would have provided for conditional approval of the CAM plan are not included in the issued permit and the other provisions in the draft condition have been renumbered.)

#### Table 7.1.13-1

This table as revised to clarify that each boiler is consider a PSEU and to include the 30 percent indicator range for opacity as previously addressed in the responsiveness summary

**Condition 7.2.6(b)**

This condition was revised in the issued permit to more clearly identify the specific coal transfer operations in the Coal Yard which are subject to the throughput and emission limits specified in this condition. Minor administrative changes related to the required records in Condition 7.2.9(b)(ii) were also made for consistency with Condition 7.2.6(b).

**Condition 7.6.5(b)**

This condition was added in the issued permit. Fly ash handling equipment at the Joppa Station does not meet the definition of nonmetallic mineral processing plant in 40 CFR 60.671 because this equipment does not crush or grind ash. These affected processes are therefore not subject to 40 CFR 60 Subpart 000. This non-applicability condition is being added to the ash handling section of CAAPP permits for other coal-fired power plants in Illinois but was inadvertently omitted in the draft permit for the Joppa Station.

**Condition 7.6.6(b) (ii)**

This condition was revised to address a comment related to the identified emission factors and to clarify that the identified permits were originally issued to Met South Inc. Minor administrative changes related to the required records in Condition 7.6.9(b)(ii) were also made for consistency with Condition 7.6.6(b).

**Condition 10.5 - Attachment 5**

Dates in the Acid Rain Permit identified in the draft permit with "TBD" for "To Be determined" were specified in the issued permit.