

**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT NO. 53418**

## **I. INTRODUCTION**

This Title V permit renewal is for the continued operation of Tucson Electric Power Company (TEP) - Springerville Generating Station (SGS), located in Apache County, approximately 15 miles North of Springerville, Arizona. This permit is a renewal of Air Quality Permit #32008. TEP-SGS presently consists of power generating equipment and support services.

### **A. Company Information**

Facility Name: Tucson Electric Power Company  
Springerville Generation Station

Mailing Address: Mail Stop HQW602, PO Box 711  
Tucson, AZ 85702

Facility Location: 10 miles north of Springerville on Highway 191; 12 miles east  
on site access Road, Springerville, Apache County, AZ

### **B. Attainment Classification (Source: 40 CFR 81.303)**

The air quality control region in which the subject facility is located either is unclassified or is classified as being in attainment of the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants: particulate matter less than 10 microns (PM<sub>10</sub>), nitrogen dioxide (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), lead (Pb), and ozone (O<sub>3</sub>).

## **II. FACILITY DESCRIPTION**

### **A. Process Description**

TEP – SGS is a steam electric generating station. The Standard Industrial Classification (SIC) is 4911. The station consists of four coal-fired generating units designated as Unit 1, Unit 2, Unit 3 and Unit 4. All four units burn coal during normal operations except the period of start-up and flame stabilization for which fuel oil including bio-diesel is fired. Under normal full load operating conditions, the net megawatt ratings at the units are 387 MW, 390 MW, 417 MW, and 415 MW, respectively. SGS supplies electric power for sale to customers. The facility is operated 24 hours a day and 365 days a year. The facility also has an auxiliary boiler, fuel handling systems, and ash handling systems.

Major equipment for each generating unit consist of a coal-fired boiler, steam turbine

electrical power generator, air pollution control equipment, a water-cooled surface steam condenser, boiler feed-water systems including condensate and feed-water pumps, feed-water heaters and a deaerator. Each unit is equipped with a circulating water system to provide cooling water to the steam condenser, including circulating water pumps, a mechanically-induced draft cooling tower to remove heat from the condenser circulating water system, a water supply pipeline, and water storage pond.

Unit 1 and Unit 2 boilers are tangentially-fired units and currently burn coal from El Segundo mine. Unit 3 and Unit 4 boilers are dry bottom wall-fired units and are primarily fired with Powder River basin (PRB) coal. The principal components of each boiler include a membrane wall furnace, superheater, reheater, economizer, convection pass, pulverizers, and low NO<sub>x</sub> burners.

Coal is delivered to the facility by train, unloaded by means of rotary car dumper at a rate of approximately 3000 tons per hour, and transferred to storage via covered conveyor belts. Coal is reclaimed from storage for crushing and pulverizing. The pulverized coal is fed to the boilers for burning. Dust collection and suppression systems are utilized at coal transfer points. Fuel oil and bio-diesel are delivered by train or truck and are stored in storage tanks.

The ash disposal system handles fly ash. Fly ash from the fabric filter baghouse is transferred via a pneumatic system to the fly ash silos. Bottom ash is removed from the boiler and processed in a dewatering system. Both fly ash and bottom ash are hauled by truck to the ash burial area located on site.

The maximum sustained process rates for the four boilers and the auxiliary boilers are provided in Table 1 below.

**Table 1: Maximum Sustained Process Rate Estimates**

| Source           | Hours | MW             | MW-hr/yr  |
|------------------|-------|----------------|-----------|
| Steam Unit 1     | 8760  | 427 (gross)    | 3,740,520 |
| Steam Unit 2     | 8760  | 430 (gross)    | 3,766,800 |
| Steam Unit 3     | 8760  | 450 (gross)    | 3,942,000 |
| Steam Unit 4     | 8760  | 450 (gross)    | 3,942,000 |
| Auxiliary Boiler | 8760  | 113 (MMBtu/hr) |           |

The different operating scenarios for the boilers and auxiliary boiler of SGS are listed in Table 2.

**Table 2- Operating Scenarios**

| Typical Operating Parameters                | Unit 1 Boiler                   | Unit 2 Boiler | Unit 3 Boiler      | Unit 4 Boiler | Auxiliary Boiler                             | Total for Units 1, 2, 3, and 4 |
|---|---------------------------------|---------------|--------------------|---------------|--|--------------------------------|
| Primary Fuel                                | Coal                            | Coal          | Coal               | Coal          | Oil  |                                |
| Rated Production Rate                       | 427 MW gross                    | 430 MW gross  | 450 MW gross       | 450 MW gross  | 113 MMBtu/hr                                 | 1757 MW Gross                  |
|   | 387 MW net                      | 390 MW net    | 417 MW net         | 415 MW net    |  | 1609 MW net                    |
| Estimated Max. Yearly Usage of primary fuel | 1,990,909 TPY each              |               | 2,090,455 TPY each |               | Oil: 7,008,000 gal/yr                        | 8,162,728 Ton/Yr               |
| Estimated Max. Hourly Usage                 | 227.27 TPH each                 |               | 238.64 TPH each    |               | 800 GPH                                      | 931.82 TPH                     |
| Primary Fuel Typical Heating Value          | 8,800 Btu/lb                    |               | 8,800 Btu/lb       |               | Fuel Oil: 19,900 Btu/lb Normal (#2 fuel oil) | N/A                            |
| Potential Sulfur Content- Primary fuel      | 2.0% max<br>1.0 to 1.2 % normal |               | 1.0% max           |               | 0.5% max<br><br>0.3% normal                  | N/A                            |
| Potential Ash Content                       | 35% max; 18% normal             |               | 21%                |               | 0.02% max,<br>Trace% normal                  | N/A                            |

### **B. Air Pollution Control Equipment**

Each of the four boilers is equipped with a fabric filter baghouse to capture PM emissions and Flue Gas Desulfurization with Spray Dry Absorbers (SDA) to capture SO<sub>2</sub> emissions. For NO<sub>x</sub> emissions control, Unit 1 and Unit 2 are equipped with low NO<sub>x</sub> burners and overfire air ports in conjunction with good operating practices whereas Unit 3 and Unit 4 utilize the low NO<sub>x</sub> burners and selective catalytic reduction (SCR) control technology.

Dust collection and suppression systems are utilized at various coal transfer points. Baghouses are used in Lime Handling operations.

### **III. Emissions**

Data from the applicant's emission sources form shows that SGS emits more than 100 tons per year (tpy) for each criteria pollutant (except lead). The facility also emits total HAPs more than 25 tons per year. The potential emissions rate from TEP-SGS is summarized in Table 3 below:

**Table 3: Summary of Potential to Emit (Facility wide)**

| <b>Pollutant</b>  | <b>Emissions</b>     |
|-------------------|----------------------|
|                   | <b>Tons per year</b> |
| NO <sub>x</sub>   | 9,702                |
| CO                | 10,901               |
| SO <sub>2</sub>   | 10,849               |
| VOCs              | 249                  |
| PM <sub>10</sub>  | 4,209                |
| PM <sub>2.5</sub> | 1,932                |
| HAPs              | 128                  |
| Lead              | 1                    |

**IV. LEARNING SITES POLICY**

In accordance with ADEQ’s Environmental Permits and Approvals near Learning Sites Policy, the Department conducted an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

There are no schools within two mile radius of the TEP-SGS facility located in Springerville, Apache County, AZ.

**V. COMPLIANCE HISTORY**

Compliance inspections and performance tests are being conducted regularly on this source to ensure compliance with the permit conditions. There are currently no cases of violation identified for this source.

**VI. APPLICABLE REGULATIONS**

The Permittee has identified all applicable regulations that apply to each operating unit identified in the permit application. Table 4 summarizes the findings of the Department with respect to the applicability or non-applicability of these regulations.

**Table 4- Verification of Applicable Regulations**

| Unit ID                       | Start-up date  | Control Equipment   | Applicable Regulations  | Verification   |
|-------------------------------|--|---|---|--|
| Boilers- Unit 1 and Unit 2    | Unit 1 and Unit 2:<br>January, 1978<br>(commenced construction)<br><br>May, 1985 and June, 1990<br>(commercial operation)                          | Baghouses and Dry Flue Gas Desulfurization<br><br>Spray Dry Adsorbers (SDA) | New Source Performance Standards (NSPS) 40 CFR 60 Subpart D<br><br>EPA Approval to Construct, dated Dec. 21, 1977 | Unit 1 and Unit 2 commenced construction after August 17, 1971 and both have capacity greater than 73 MW. Therefore requirements of NSPS Subpart D are applicable.<br><br>The emission limits in the EPA Approval to Construct are more stringent than NSPS limits. Therefore, the emission limits from this Approval are incorporated in the permit.                |
| Boilers- Unit 3 and Unit 4    | Unit 3 and Unit 4 :<br>(commenced construction after Sept. 18, 1978)<br><br>July 20, 2006 and Dec. 17, 2009 respectively<br>(commercial operation) | Fabric filter baghouse<br><br>Dry flue gas desulfurization                  | NSPS, 40 CFR 60, Subpart Da<br><br>40 CFR 72<br>40 CFR 73<br>40 CFR 75<br>40 CFR 64 (CAM)                         | Unit 3 and Unit 4 commenced construction after September 18, 1978 and both have capacity greater than 73 MW each. Therefore, the requirements of NSPS, 40 CFR 60 Subpart Da are applicable.<br><br>BACT limits for Opacity and PM are more stringent than NSPS limits. Therefore, the BACT emission limits are incorporated in the permit.                           |
| Auxiliary Boiler              | January, 1978<br>(commenced construction)  | None  | A.A.C. R18-2-724  | Though the heat input of auxiliary boiler is 113 MMBtu/hr (> 100 MMBtu/hr), the date of construction is prior to the trigger date of June, 1984 for NSPS Subpart Db, therefore NSPS Subpart Db is not applicable.<br><br>This unit is therefore subject to the Standards of Performance for Fossil-fuel fired Industrial and Commercial Equipment, A.A.C. R18-2-724. |
| Emergency ICEs and fire pumps | 2007   | None  | NSPS Subpart III  | NSPS Subpart III is applicable to engines manufactured after April 2006. One emergency diesel fire pump is manufactured in the year 2007 and NSPS Subpart III is applicable to that engine.  |

| Unit ID                       | Start-up date       | Control Equipment  | Applicable Regulations  | Verification  |
|-------------------------------|---------------------|--|---|---|
| Emergency ICEs and fire pumps | 1985, 1999 and 2004 | None   | A. A. C. R18-2-719  | Other engines are manufactured prior to this date. NSPS Subpart III is therefore not applicable. Hence, standards of Performance for Existing Stationary Rotating Machinery are applicable.   |
|                               |                     |  | NESHAP, Subpart ZZZZ  | The emergency diesel fire pumps (except the one manufactured in the year 2007) are 'existing' at a major source in accordance with 40 CFR 63, Subpart ZZZZ. Requirements of Subpart ZZZZ are applicable.  |
|                               |                     |  |   | The emergency diesel fire pump, 1300 HP is 'existing' at a major source. There are no requirements of NESHAP ZZZZ applicable to this engine.  |
| Cooling Towers                |                     | Drift eliminators  | A.A.C. R18-702.B and 730  | Since chromium-based water treatment chemicals are not used (NESHAP Subpart Q), the cooling towers are subject to the particulate matter in A.A.C. R18-2-730 and the general visible emissions standard.  |
| Coal Preparation Plant        |                     | Dust Collectors  | NSPS Subpart Y, Approval to Construct of December 21, 1977, Condition X.A.<br><br>A.A.C.R18-2-612 | The coal handling system handles more than 200 tons per day and was constructed after October 24, 1974; therefore requirements of NSPS, Subpart Y are applicable.<br><br>BACT limits are more stringent and have been incorporated in the permit. |
| Lime Handling Units           |                     | Lime Silos Collector Baghouses at Water Treatment Silos(4) | A.A.C. R18-702.B and -730   | Since TEP-SGS only handles lime, it is subject to particulate matter standard under A.A.C. R18-2-730 and the general visible emissions standard under A.A.C. R18-2-702.   |

| Unit ID                               | Start-up date | Control Equipment   | Applicable Regulations        | Verification  |
|---------------------------------------|---------------|---|-------------------------------|---|
|                                       |               |   |                               | BACT limits applicable to Unit 3 and Unit 4 are more stringent and have been incorporated in the permit.  |
| Fly Ash Handling Units                |               | Dust Collectors   | A.A.C. R18-702.B and 730      | <p>The ash handling is subject to the particulate matter standard under A.A.C. R18-2-730 and the general visible emissions standard under A.A.C. R18-2-702, and BACT limits.</p> <p>BACT limits applicable to Unit 3 and Unit 4 are more stringent and have been incorporated in the permit for Ash Handling Unit 3 and Unit 4.</p> |
| Activated Carbon Silo                 |               | Vent filter   | A.A.C. R18-702.B and -730     | The activated carbon silo is subject to the particulate matter standard under A.A.C. R18-2-730 and the general visible emissions standard under A.A.C. R18-2-702.   |
| Evaporative Water Spray (EWS) Systems |               |   | A.A.C. R18-702.B and -730     | The evaporative water spray systems are subject to the particulate matter standard under A.A.C. R18-2-730 and the general visible emissions standard under A.A.C. R18-2-702.  |
| Solvent Cleaners/ Degreasers          |               |   | A.A.C. R18-2-730              | Periodic activity   |
| Spray Painting                        |               | Controls containing no less than 96 percent of the overspray              | A.A.C. R18-2-702(B) and -727  | Periodic Activity   |
| Abrasive Sand Blasting                |               | Wet blasting, enclosure or any other proposed method approved by Director | A.A.C. R18-2-702 (B) and -726 | Periodic Activity   |

| Unit ID               | Start-up date  | Control Equipment                         | Applicable Regulations                      | Verification   |
|-----------------------|----------------|---|---|--|
| Fugitive Dust Sources |                | Water and other reasonable precautions    | Article 6, A.A.C. R18-2-702                 | These standards are applicable to fugitive dust sources.   |
| Mobile Sources        | Not Applicable | Water Sprays/Water Truck for dust control | Article 8                                   | This Article is applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization. |
| Demolition/Renovation | Not Applicable |   | A.A.C. R18-2-1101.A.8 (NESHAP for asbestos) | Relevant requirements applicable to demolition and renovation operations   |

## VII. PREVIOUS PERMIT CONDITIONS

### A. Previous Permits

The most recent operating permit and subsequent revisions issued to TEP-SGS are listed in the Table 5.

**Table 5: Previous Permits**

| Date Issued       | Permit # | Application Basis           |
|-------------------|----------|-----------------------------|
| July 21, 2006     | 32008    | Operating Permit            |
| May 7, 2007       | 42847    | Significant Permit Revision |
| November 21, 2007 | 44541    | Minor Permit Revision       |
| February 19, 2008 | 45309    | Minor Permit Revision       |
| July 16, 2008     | 47258    | Minor Permit Revision       |
| March 16, 2009    | 47190    | Significant Permit Revision |
| July 9, 2009      | 50337    | Significant Permit Revision |

**B. Previous Permit Conditions**

1. Operating Permit #32008

| Condition #    | Determination |      |        |             | Comments  |
|----------------|---------------|------|--------|-------------|---|
|                | Revise        | Keep | Delete | Stream-line |   |
| Att. A         | x             |      |        |             | General provisions - revised to represent most recent language  |
| Attachment "B" |               |      |        |             |   |
| I              |               | x    |        |             | Condition renamed as Facility wide General Requirements   |
| II             |               | x    |        |             | Conditions for Unit 1 and Unit 2  |
| III            | x             |      |        |             | Conditions for Unit 3 and Unit 4 revised by deleting CAM requirement for sulfur dioxide and hydrogen fluoride (as per 40 CFR 64.2(b)(vi) and 51.166(b)(49)(v)). |
| IV             |               |      |        | x           | Conditions for combined limits for Unit 1, Unit 2, Unit 3, and Unit 4 streamlined by removing intermediate references to operation of Unit 3 and Unit 4         |
| V              |               | x    |        |             | Conditions for Auxiliary Boiler   |
| VI and VII     |               | x    |        |             | Conditions for Cooling Towers for Unit 1, Unit 2, Unit 3, and Unit 4 combined and renumbered as Condition VII   |
| VIII           |               | x    |        |             | Conditions for 'Coal Preparation Plant'   |
| IX and X       |               | x    |        |             | Conditions for 'Lime Handling Plants'   |
| XI and XII     |               | x    |        |             | Conditions for 'Fly Ash Handling'   |
| XIII           |               | x    |        |             | Conditions for 'Non-point sources' renamed as 'Fugitive Dust Source' and renumbered as Condition XV   |
| XIV            |               | x    |        |             | Conditions for 'Abrasive Blasting' renumbered as Condition XVI  |
| XV             |               | x    |        |             | Conditions for 'Use of Paints' renumbered as Condition XVII   |

| Condition # | Determination |      |        |             | Comments  |
|-------------|---------------|------|--------|-------------|---|
|             | Revise        | Keep | Delete | Stream-line |   |
| XVI         |               | x    |        |             | Conditions for 'Solvent Cleaning/Degreasing and Dipping Operations' renumbered as Condition XVIII   |
| XVII        |               | x    |        |             | Conditions for 'Mobile Sources' renumbered as Condition XIX   |
| XVIII       |               | x    |        |             | Conditions for 'Demolition/Renovation' renumbered as Condition XX   |
| XIX         |               | x    |        |             | Conditions for 'Nonvehicle Air Conditioner Maintenance and/or Services' renumbered as Condition XXI   |
| XX          |               | x    |        |             | Conditions for 'Emergency Diesel Fire Pumps' renumbered as Condition VI.  |
| XXI         |               |      | x      |             | Conditions for ambient air monitoring have been deleted because TEP-SGS are not part of the SLAMS network run by the State for NAAQS compliance purposes. |

2. Significant Permit Revision #42847

| Condition #    | Determination |      |        |             | Comments   |
|----------------|---------------|------|--------|-------------|--|
|                | Revise        | Keep | Delete | Stream-line |  |
| Attachment "B" |               |      |        |             |  |
| VIII.B.1.a(2)  |               | x    |        |             | Condition for opacity limit from baghouses renumbered as Condition VIII.B.1.a(3) |
| XXII           |               | x    |        |             | Condition for Activated Carbon Silo renumbered as Condition XIII                 |
| Attachment "C" |               |      |        |             |  |
| Equipment List | x             |      |        |             | Equipment List has been replaced with the most recent equipment list             |

3. Minor Permit Revision #44541

| Condition #    | Determination |      |        |             | Comments   |
|----------------|---------------|------|--------|-------------|--|
|                | Revise        | Keep | Delete | Stream-line |  |
| Attachment "C" |               |      |        |             |  |
| Equipment List | x             |      |        |             | Equipment List has been replaced with the most recent equipment list |

4. Minor Permit Revision #45309

| Condition #    | Determination |      |        |             | Comments   |
|----------------|---------------|------|--------|-------------|--|
|                | Revise        | Keep | Delete | Stream-line |  |
| Attachment "B" |               |      |        |             |  |
| III.B.2        |               | x    |        |             | Condition for Vapor Extractor Blower Vents, Generator Seal Oil Vapor Extractor, Hydraulic Fluid Reservoir Extractors, and Unit 4 Fuel Oil Storage Tank renumbered as Conditions III.B.3 and III.B.3. |
| Attachment "C" |               |      |        |             |  |
| Equipment List | x             |      |        |             | Equipment List has been replaced with the most recent equipment list   |

5. Minor Permit Revision #47258

| Condition #              | Determination |      |        |             | Comments   |
|--------------------------|---------------|------|--------|-------------|--|
|                          | Revise        | Keep | Delete | Stream-line |  |
| Attachment "B"           |               |      |        |             |  |
| VIII.B.2.a(1)<br>and (2) |               | x    |        |             | Air Pollution Control Requirement conditions renumbered as Conditions VIII.B.2.a and b |
| Attachment "C"           |               |      |        |             |  |
| Equipment List           | x             |      |        |             | Equipment List has been replaced with the most recent equipment list                   |

6. Significant Permit Revision #47190

| Condition #    | Determination |      |        |             | Comments  |
|----------------|---------------|------|--------|-------------|---|
|                | Revise        | Keep | Delete | Stream-line |   |
| Attachment "B" |               |      |        |             |   |
| XXIII          |               | x    |        |             | Condition for Evaporative Water Spray System renumbered as Condition XIV. |
| Attachment "C" |               |      |        |             |   |
| Equipment List | x             |      |        |             | Equipment List has been replaced with the most recent equipment list.     |

7. Significant Permit Revision #50337

| Condition #    | Determination |      |        |             | Comments   |
|----------------|---------------|------|--------|-------------|--|
|                | Revise        | Keep | Delete | Stream-line |  |
| Attachment "B" |               |      |        |             |  |
| III.C.3.c      |               | x    |        |             | Condition for NSPS Subpart Da Monitoring/Recordkeeping/Reporting Requirements for Unit 4 |
| III.C.4.b(2)   |               | x    |        |             | Condition for Testing for PM performance test for Unit 4                                 |
| III.K          |               | x    |        |             | Condition for Mercury emission standard renumbered as Condition III.J.                   |
| IV.E           |               | x    |        |             | Condition for Mercury Control Strategy   |

**VIII. PERIODIC MONITORING REQUIREMENTS**

**A. Unit 1 and Unit 2**

Opacity: The units are subject to an opacity standard of 15 percent. The Permittee must operate a continuous opacity monitoring system (COMS) for opacity at all times when the units are in operation. The system is required to meet the requirements of 40 CFR 60.13, 40 CFR 60 Appendix B- PS 1, and 40 CFR 75.

SO<sub>2</sub> Refer to discussion under Unit 3 and Unit 4 for overall limits applicable to Unit 1, Unit 2, Unit 3, and Unit 4. Individual limits (if applicable).

NO<sub>x</sub> The units are subject to a NO<sub>x</sub> emission limit of 0.697 lb/MMBtu while burning coal. The Permittee must operate a continuous emissions monitoring system (CEMS) for recording emissions of NO<sub>x</sub>. The monitoring system is required to meet the requirements of 40 CFR 60.13 and 40 CFR 75, Appendix A and B. In addition, annual performance tests to determine the NO<sub>x</sub> concentration will be required

Sulfuric Acid:

Refer to discussion under Unit 3 and Unit 4 for overall emission limits applicable to Unit 1, Unit 2, Unit 3, and Unit 4. Individual limits (if applicable) and pollutant monitoring is discussed under Section IX- Compliance Assurance Monitoring.

## B. Unit 3 and Unit 4

**Opacity:** Each of the units is subject to an opacity standard of 15 percent, based on a six-minute average, representing best available control technology (BACT). Other less stringent opacity standard (under 40 CFR Part 60, Subpart Da, 60.42a(b)- 20 percent opacity) has been streamlined out of the permit.

The Permittee must operate a continuous monitoring system for opacity at all times when the units are in operation. The continuous opacity monitoring system is required to meet the performance specifications in 40 CFR Part 60, Appendix B. In addition, initial and annual performance tests using EPA Method 9 are required.

**SO<sub>2</sub>:** Each of the units is subject to several SO<sub>2</sub> emission standards with different averaging periods and forms of expression. First, each unit is subject to the SO<sub>2</sub> standard under 40 CFR Part 60, Subpart Da, 60.43Da(a), which requires that either a specified emission rate or a specified control efficiency be achieved. Second, each unit is subject to the Acid Rain Program provisions at 40 CFR Part 72, which requires that the Permittee hold allowances for all SO<sub>2</sub> emissions. Third, the total SO<sub>2</sub> emissions from Unit 1, Unit 2, Unit 3, and Unit 4 are subject to a short-term emission cap of 8,448 lb/hr (based on a three-hour rolling average). This short-term emission cap is sufficient to ensure compliance with the SO<sub>2</sub> NAAQS and PSD Increment. Fourth, the total SO<sub>2</sub> emissions from Unit 1, Unit 2, Unit 3, and Unit 4, calculated on a rolling 12-month sum and a calendar year basis must not exceed 10,800 tons per year.

The Permittee must operate continuous emissions monitoring systems (CEMS) for recording SO<sub>2</sub> emissions from each unit. These CEMS are required to meet the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, Appendices A and B. These CEMS will be used to demonstrate compliance with all SO<sub>2</sub> emission standards. The CEMS also are used for the required initial performance tests.

CAM requirements under 40 CFR Part 64 are not applicable to the SO<sub>2</sub> emission standards for Unit 3 and Unit 4 because each of these emission standards is exempted under 40 CFR 64.2.b(1). The NSPS standards are exempt under 64.2.b(1)(vi) because the regulation includes a continuous compliance determination method. The voluntarily accepted emission caps are exempt under 64.2.b(1)(v) because they meet the requirements under 40 CFR 70.4(b)(12). The applicable Acid Rain Program emission standards are specifically exempted under 64.b(1)(iii).

**NO<sub>x</sub>:** Each of the units is subject to the NSPS NO<sub>x</sub> standard under 40 CFR Part 60, Subpart Da, 60.44a(d)(1) and the Acid Rain Program NO<sub>x</sub> standard under 40 CFR Part 76. In addition, the total NO<sub>x</sub> emissions from Unit 1, Unit 2, Unit 3, and Unit 4, calculated on a rolling 12-month sum and a calendar year basis must not exceed 9,600 tons per year.

The Permittee is required to operate CEMS for recording NO<sub>x</sub> emissions from each unit. These CEMS are required to meet the requirements of 40 CFR Part 75, Appendices A and B. These CEMS will be used to demonstrate compliance with all NO<sub>x</sub> emission standards. The CEMS also are used for the required initial performance tests.

CAM requirements under 40 CFR Part 64 are not applicable to the NO<sub>x</sub> emission standards for Unit 3 and Unit 4 because each of these emission standards is exempted under 40 CFR 64.2.b(1). The NSPS standards are exempt under §64.2.b(1)(vi) because the regulation includes a continuous compliance determination method. The voluntarily accepted emission cap is exempt under §64.2.b(1)(v) because it meets the requirements under 40 CFR 70.4(b)(12). The applicable Acid Rain Program emission standard is specifically exempted under §64.2.b(1)(iii).

It should be noted that compliance with the annual emission caps are required by the permit. One of the measures available to the Permittee for complying with the emission cap is to halt or reduce operation. A.A.C. R18-2-306 provides that needing to halt or reduce operation in order to comply with a permit condition does not constitute a defense in an enforcement action. In addition, A.R.S. §49-462 provides that the Director may file an action for injunctive relief, which may include shutdown of the source, if a violation of a permit term occurs.

CO: Each of the units is subject to a CO standard of 0.15 lb/MMBtu heat input, based on a 30-day rolling average, representing BACT. The Permittee is required to operate CEMS for recording CO emissions from each unit. These CEMS are required to meet the requirements of 40 CFR Part 60, Appendices B and F. The CEMS also are used for the required initial performance tests.

CAM requirements under 40 CFR Part 64 are not applicable to the CO emission standard for Unit 3 and Unit 4 because no control device is used to demonstrate compliance.

VOC: Each of the units is subject to a VOC standard of 0.06 lb per ton of coal combusted, based on a three-hour averaging period, representing BACT. The Permittee is required to perform performance test using EPA Method 18 or 25.

CAM requirements under 40 CFR Part 64 are not applicable to the VOC emission standard for Unit 3 and Unit 4 because no control device is used to demonstrate compliance.

Lead: Each of the units is subject to a lead standard of 0.000016 lb/MMBtu heat input, based on a three-hour averaging period. The Permittee is required to perform performance tests using EPA Method 12 or 29.

#### Sulfuric Acid:

The total emissions of H<sub>2</sub>SO<sub>4</sub> mist from Unit 1, Unit 2, Unit 3, and Unit 4, calculated on a rolling 12-month sum basis, must not exceed 211 tons per year. The monitoring plan relies upon the use of the monitored SO<sub>2</sub> emission rate as the primary indicator of compliance with the H<sub>2</sub>SO<sub>4</sub> mist emission cap. The permit includes provisions requiring adherence to this monitoring plan, including an initial verification test to establish the relationship between SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> mist emission rates. (A strong linear relationship is expected to exist because both SO<sub>2</sub> and SO<sub>3</sub>, from which H<sub>2</sub>SO<sub>4</sub> mist is formed, are acid gases that will be controlled by absorption in the spray dry absorbers and captured in the fabric filter baghouse). In addition, performance tests using EPA Method 8 are required. Once the ratio of SO<sub>2</sub> to H<sub>2</sub>SO<sub>4</sub> mist emission rates is established for each of the four boilers, the monitored SO<sub>2</sub> emission rates will be used to calculate the H<sub>2</sub>SO<sub>4</sub> mist emissions on a 12-month rolling-sum basis.

CAM requirements under 40 CFR Part 64 are not applicable to the H<sub>2</sub>SO<sub>4</sub> mist emission cap. This emission cap is exempted under 40 CFR 64.2.b(1)(v) because it meets the requirements under 40 CFR 70.4(b)(12).

It should be noted that compliance with the annual emission cap is required by the permit. One of the measures available to the Permittee for complying with the emission cap is to halt or reduce operation. A.A.C. R18-2-306 provides that needing to halt or reduce operation in order to comply with a permit condition does not constitute a defense in an enforcement action. In addition, A.R.S. 49-462 provides that the Director may file an action for injunctive relief, which may include shutdown of the source, if a violation of a permit term occurs.

**Mercury:** Each of the units is subject to a mercury standard of 0.0000069 lb/MMBtu heat input, based on a 3-hour averaging period, which results from a case-by-case maximum achievable control technology (MACT) that is state enforceable only (Refer Section VI of Technical Support Document for Permit No. 1001554 for a discussion of the MACT analysis). Compliance with this requirement for Unit 3 and Unit 4 will be by annual performance testing.

**Fuel Use:** The Permittee is restricted to using coal, No. 2 distillate fuel oil and bio-diesel blends as fuels in each of the steam generating units. Heat input to each unit is limited to 4,200 MMBtu/hr, based on a 30-day rolling average. These restrictions are needed to ensure the enforceability of the representations made in the permit application, because these representations form the basis of all regulatory and technical analyses performed by the Department. The Permittee is required under Acid Rain Program regulations to determine and record the heat input to each unit on an hourly basis.

**Other:** In order to demonstrate compliance with all applicable emission standards using all applicable averaging periods and forms of expression, each unit is subject to other monitoring requirements that are needed, in conjunction with

the monitoring described above. For instance, the Permittee is required to operate wattmeters to record continuously the electrical output of each unit. This parameter is needed in order to demonstrate compliance with the NO<sub>x</sub> standard under 40 CFR Part 60, Subpart Da, which is expressed in units of pounds per megawatt-hour.

### **C. Auxiliary Boiler**

**Opacity:** The auxiliary boiler is subject to an opacity standard of 15 percent. This unit burns Number 2 fuel oil and bio-diesel. The Permittee must monitor and record opacity according to the following schedule:

For every 120 hours of continuous operation, a visible emissions survey shall be conducted. If the opacity appears to exceed the applicable standard, an EPA Method 9 reading is required. The Permittee must keep records of the initial survey and any EPA Method 9 observations performed. Records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observations. If Method 9 reading shows excess of the applicable standard, appropriate corrective action to reduce to below the applicable standard shall be initiated. The Permittee must keep record of the corrective action performed. The Permittee shall maintain a record of the opacity readings and number of hours fuel oil is burned continuously. The Permittee must report all six minute periods in which the opacity of any plume or effluent exceeds the applicable standard from the auxiliary boiler.

The Permittee must keep a record the dates and hours of operation of the auxiliary boiler.

**PM:** The unit is subject to the PM emissions standard in A.A.C. R18-2-724.C.1. The Permittee must monitor the heating value and ash content of the fuel. This information is located in the contractual agreement with the liquid fuel vendor.

Although ash content by itself is not a valid measure of PM emissions, monitoring it would help the agency to “ballpark” the PM emissions. No engineering estimation using ash content is prescribed in the permit since it could be interpreted to incorrectly correlate PM emissions to ash content only. The Permittee must keep on record a copy of the contractual agreement.

**SO<sub>2</sub>:** The boiler is subject to the SO<sub>2</sub> standard in A.A.C. R18-2-724.E. When No.2 diesel fuel oil and/or bio-diesel is burned, the Permittee must keep record of the fuel supplier certifications which includes the following information:

1. The name of the oil supplier;
2. The sulfur content and the heating value of the fuel from which the shipment came; and
3. The method used to determine the sulfur content of the oil.

The Permittee must make engineering calculations for SO<sub>2</sub> emissions using the information from above according to the following equation for each fuel delivery:

$$\text{SO}_2 \text{ (lb/MMBtu)} = \frac{2.0 \times [(\text{Weight percent of sulfur}/100) \times (\text{Density in lb/gal})]}{[\text{Heating value of fuel in Btu/gal} \times 1 \text{ MMBtu}/1,000,000 \text{ Btu}]}$$

SO<sub>2</sub> is calculated from above equation in lb/MMBtu.

Although potential to emit (PTE) of SO<sub>2</sub> is more than 100 tpy, firing of the auxiliary boiler is rare. The boiler is only used during cold start-up of the units. Therefore, no testing is required.

NO<sub>x</sub>: There is no applicable standard and hence no monitoring is required. Also, the unit does not have the potential to be a major emission unit i.e., it cannot emit more than 100 tpy of NO<sub>x</sub>. Hence, no testing is required.

#### **D. ICES**

##### **1. Subject to State Regulations**

Opacity: The emergency fire pumps (ICES) which are capable of burning diesel and bio-diesel are subject to a 40 percent opacity limitation. A certified EPA Reference Method 9 observer is required to conduct after each 120 hours of continuous operation, a survey of visible emissions emanating from the stacks of the ICES. If the opacity appears to exceed the applicable standard, an EPA Method 9 reading is required. The Permittee must keep records of the initial survey and any EPA Method 9 observations performed. Records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observations. If Method 9 reading shows excess of the applicable standard, appropriate corrective action to reduce to below the applicable standard shall be initiated. The Permittee must keep record of the corrective action performed.

PM: The Permittee must keep records of the lower heating value of the fuel being combusted in the ICES. Compliance with this requirement may be demonstrated by maintaining copy of the fuel supplier certification specifying the lower heating value.

SO<sub>2</sub>: The Permittee must not burn high sulfur fuel, and is limited to emissions of sulfur dioxide to 1.0 pound per million Btu heat input. The Permittee must maintain records of daily sulfur content and lower heating value of the fuel fired in the ICES, along with a copy of the fuel supplier certification specifying the sulfur content and lower heating value.

2. Subject to NSPS
  - a. The Permittee must keep documentation that the engine meets all applicable emission standards.
  - b. The Permittee must maintain a record of daily, monthly, and rolling 12-month totals of the operating hours of operation of the ICE to show compliance with the hourly limitation.
  - c. The Permittee must record the time of operation of the ICE and the reason of operating the ICE.
  
3. Subject to NESHAP
  - a. The Permittee must keep a record of the hours of operation of the ICES recorded through the non-resettable hour meter. Records must include the date, start and stop times, hours run for emergency operation, including what classified the operation as emergency, and hours run for non-emergency operation.
  - b. The Permittee must keep records of the parameters analyzed and the result of the oil analysis, if any, and oil changes for the ICES.
  - c. The Permittee must keep records of the maintenance conducted on the ICES to demonstrate that the ICES were operated and maintained in accordance with the maintenance plan.

**E. Cooling Towers**

Opacity: The cooling towers are subject to the opacity standard of 20 percent under the general visible emissions rule in A.A.C. R18-2-702.B. The Permittee is required to make a weekly survey of the visible emissions from the cooling towers. The Permittee is required to create a record of the date on which the survey was taken, the name of the observer, and the results of the survey. If the visible emissions do not appear to exceed the applicable standard, the Permittee would note in the record that the visible emissions were of low the applicable opacity standard, and it did not require a Method 9 to be performed.

If the Permittee finds that on an instantaneous basis the visible emissions could be in excess of the applicable opacity standard, then it is required to make a six-minute Method 9 observation. If this observation indicates opacity in excess of the applicable standard then the Permittee is required to report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment to bring the opacity below the applicable standard. If the Permittee finds that the visible emissions is less than applicable opacity standard, then the Permittee is required to record the source of emission, date, time, and result of the test.

PM: The units are subject to particulate matter emissions standard in A.A.C. R18-2-730.A.1. Compliance with this standard is demonstrated through compliance with the following provisions:

First, the permit has established the circulating water flow rate limit for each cooling tower. Compliance with this limit is demonstrated by maintaining records of design maximum pumping capacity. Second, each cooling tower is equipped with high-efficiency drift eliminators and limits for maximum total liquid drift are defined in the permit. Compliance with this requirement is demonstrated by maintaining records of the vendor-guaranteed maximum total liquid drift. Finally, each cooling tower is subject to an hourly PM emission limit defined in the permit. The Permittee must perform twice monthly measurements for the total dissolved solids content of the circulating water. Compliance with the PM emission standard is required to be demonstrated by performing twice monthly calculation of PM emissions from each cooling tower using design maximum pumping capacity, vendor-guaranteed maximum total liquid drift, and the actual measured total dissolved solids content of the circulating water. Records of all measurements and calculations are required to be maintained.

#### **F. Coal Preparation Plant**

Opacity: The existing coal preparation plant, which excludes the coal storage piles is subject to the 20 percent opacity standard in 40 CFR 60, Subpart Y. The coal storage piles are subject to an opacity standard of 40 percent. The opacity from any coal preparation plant fabric filter baghouse installed as part of the Unit 3 and Unit 4 modernization is limited to 10 percent. The Permittee is required to make a weekly survey of the visible emissions from the coal preparation plant, coal storage pile, and the baghouses in the coal handling system. The Permittee is required to create a record of the date on which the survey was taken, the name of the observer, and the results of the survey. If the visible emissions do not appear to exceed the applicable standard, the Permittee would note in the record that the visible emissions were of low the applicable opacity standard, and it did not require a Method 9 to be performed.

If the Permittee finds that on an instantaneous basis the visible emissions could be in excess of the applicable opacity standard, then it is required to make a six-minute Method 9 observation. If this observation indicates opacity in excess of the applicable standard then the Permittee is required to report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment to bring the opacity below the applicable standard. If the Permittee finds that the visible emissions is less than applicable opacity standard, then the Permittee is required to record the source of emission, date, time, and result of the test.

PM: The baghouses in the coal preparation plant installed as part of the Unit 3 and Unit 4 modernization imposes a maximum outlet particulate matter concentration of 0.01 grains per dry standard cubic foot of exhaust. If the Permittee documents an opacity exceedance during the weekly visible emission survey and is not able to make repairs or identify adjustments to address the

exceedance within 72 hours, the Permittee must perform a test for that baghouse.

**G. Lime Handling Unit 1 and Unit 2**

Opacity: The lime handling plants are subject to 20 percent opacity standard. The Permittee is required to make a weekly survey of the visible emissions from the entire lime plant including all the exposed transfer points, the storage pile, and the baghouse exhaust. The Permittee is required to keep a record of the date on which the survey was taken, the name of the observer, and the results of the survey. If the visible emissions do not appear to exceed the applicable standard, the Permittee would note in the record that the visible emissions were below the applicable standard, and it did not require a Method 9 to be performed.

If the Permittee finds that on an instantaneous basis the visible emissions could be in excess of the applicable standard, then it is required to make a six-minute Method 9 observation. If this observation indicates opacity in excess of the applicable standard, then the Permittee is required to report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment to bring the opacity below the applicable standard. If observer finds that the visible emissions are less than the applicable standard, then the Permittee is required to record the source of emissions, date, time, and result of the test.

PM: The lime handling plant is subject to the particulate matter standard in A.A.C. R18-2-730.A.1.a and b. The Permittee is required to maintain and operate the baghouses in accordance with the Best Management Practices. The Permittee is also required to hold these specifications on file. All emissions related maintenance is required to be recorded.

**H. Lime Handling Unit 3 and Unit 4**

Opacity: The lime handling plants are subject to 20 percent opacity standard. In addition, the lime handling system fabric filter baghouses are subject to a 10 percent opacity standard representing BACT. The permit conditions require that the Permittee conduct a weekly survey of the visible emissions from the lime handling operations; keep a record of the date on which the survey was taken, the name of the observer, and the results of the survey; and conduct Method 9 opacity observations if opacity approaching the applicable standard is observed.

PM: The lime handling operations are subject to the particulate matter standard. Compliance with this standard will be demonstrated through the visible emission surveys described above. In addition, the fabric filter baghouses are required to be designed for maximum outlet particulate matter concentration of 0.01 grains per dry standard cubic foot of exhaust. The Permittee is required to hold these specifications on file. Records of any maintenance conducted on the fabric filter baghouses must be maintained.

## **I. Fly Ash Handling Unit 1 and Unit 2**

Opacity: The fly ash handling operation is subject to the 20 percent opacity standard. The Permittee is required to make a weekly survey of the visible emissions from the entire lime plant including all the exposed transfer points, the storage pile, and the baghouse exhaust. The Permittee is required to keep a record of the date on which the survey was taken, the name of the observer, and the results of the survey. If the visible emissions do not appear to exceed the applicable standard, the Permittee would note in the record that the visible emissions were below the applicable standard, and it did not require a Method 9 to be performed.

If the Permittee finds that on an instantaneous basis the visible emissions could be in excess of the applicable standard, then it is required to make a six-minute Method 9 observation. If this observation indicates opacity in excess of the applicable standard, then the Permittee must report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment to bring the opacity below the applicable standard. If observer finds that the visible emissions are less than the applicable standard, then the Permittee is required to record the source of emissions, date, time, and result of the test.

PM: The fly ash handling operation is subject to the particulate matter standard in A.A.C. R18-2-730.A.1. The emissions from the vent of the fly ash storage silos are ducted to the flue gas system before entering the baghouses which are used to remove PM for Unit 1 and Unit 2. The emissions from dry fly ash unloading must be ducted through a Dust Filter Module. The Permittee shall maintain records of emissions related maintenance performed on the Dust Filter module.

## **J. Fly Ash Handling Units 3 and 4**

Opacity: The fly ash handling operation is subject to the 20 percent opacity standard. In addition, the fly ash handling system fabric filter baghouses are subject to a 10 percent opacity standard representing BACT. The proposed permit requires that the Permittee conduct a weekly survey of the visible emissions from the fly ash handling operations; create a record of the date on which the survey was taken, the name of the observer, and the results of the survey; and conduct Method 9 opacity observations if opacity approaching the applicable standard is observed.

If the Permittee finds that on an instantaneous basis the visible emissions could be in excess of the applicable standard, then it is required to make a six-minute Method 9 observation. If this observation indicates opacity in excess of the applicable standard, then the Permittee must report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment to bring the opacity below the applicable standard. If observer finds that the visible emissions are less than the applicable standard, then the Permittee is required to record the source of emissions, date, time, and result of the test.

PM: The fly ash handling operation is subject to the particulate matter standard in A.A.C.R180730.A.1.a and b. Compliance with this standard will be demonstrated through the visible emissions surveys described above. In addition, the fabric filter baghouses are required to be designed for maximum outlet particulate matter concentration of 0.01 grains per dry standard cubic foot of exhaust. The Permittee is required to hold these specifications on file. Records of fabric filter baghouse maintenance are required.

#### **K. Activated Carbon Silo**

Opacity: The activated carbon silo is subject to the 20 percent opacity standard. The Permittee is required to make a weekly survey of the visible emissions from the exhaust of the vent filter associated with the activated carbon silo. The Permittee is required to keep a record of the date on which the survey was taken, the name of the observer, and the results of the survey. If the visible emissions do not appear to exceed the applicable standard, the Permittee would note in the record that the visible emissions were below the applicable standard, and it did not require a Method 9 to be performed.

If the Permittee finds that on an instantaneous basis the visible emissions could be in excess of the applicable standard, then it is required to make a six-minute Method 9 observation. If this observation indicates opacity in excess of the applicable standard, then the Permittee must report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment to bring the opacity below the applicable standard. If observer finds that the visible emissions are less than the applicable standard, then the Permittee is required to record the source of emissions, date, time, and result of the test.

#### **L. Evaporative Water Spray System**

Opacity: The evaporative water spray system is subject to the 20 percent opacity standard. The Permittee is required to make a weekly survey of the visible emissions from the exhaust of the vent filter associated with the evaporative water spray system. The Permittee is required to keep a record of the date on which the survey was taken, the name of the observer, and the results of the survey. If the visible emissions do not appear to exceed the applicable standard, the Permittee would note in the record that the visible emissions were below the applicable standard, and it did not require a Method 9 to be performed.

If the Permittee finds that on an instantaneous basis the visible emissions could be in excess of the applicable standard, then it is required to make a six-minute Method 9 observation. If this observation indicates opacity in excess of the applicable standard, then the Permittee must report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment to bring the opacity below the applicable standard. If observer finds that the visible emissions are less than the applicable standard, then the Permittee is required to record the source of emissions, date, time, and result of the test.

## **M. Fugitive Dust Sources**

The standards in A.A.C. R18-2, Article 6 are applicable requirements for fugitive dust sources. The following sources must be monitored:

1. Driveways, parking areas, and vacant lots;
2. Unused open areas;
3. Open areas (Used, altered, repaired, etc.);
4. Construction of roadways;
5. Material transportation;
6. Material handling;
7. Storage piles; and
8. Stacking and reclaiming machinery at storage piles.

All of these areas must comply with the opacity limitation of 40 percent. The Permittee must minimize emissions of PM from these sources by the use of control measures such as wetting agents, watering, covering, paving, barring access etc. The Permittee must keep track of the kind of control measure used.

The Permittee is required to make a bi-weekly survey of the visible emissions from all fugitive dust sources. The Permittee is required to keep a record of the date on which the survey was taken, the name of the observer, and the results of the survey. If the visible emissions do not appear to exceed the applicable standard, the Permittee would note in the record that the visible emissions were of low opacity, and it did not require a Method 9 to be performed.

If the Permittee finds that on an instantaneous basis the visible emissions are in excess of the applicable standard, then it is required to make a six-minute Method 9 observation. If this observation indicates opacity in excess of the applicable standard, then the Permittee is required to report it as excess emissions. In addition, the Permittee is required to adjust the process equipment or process control equipment, when feasible, to bring the opacity below the applicable standard. If the Permittee finds that the visible emissions is less than the applicable standard, then the Permittee is required to record the source of emission, date, time, and result of the test.

## **N. Other Periodic Activities**

1. Abrasive Sand Blasting

Applicable requirements for abrasive blasting are listed in A.A.C. R18-2-702.B and -726. A.A.C.R18-2-702 (B) and are included in the permit

2. Spray Painting

Applicable requirements for spray painting are listed in A.A.C. R18-2-702.B and -727 are included in the permit.

3. Mobile Sources

The Permittee is required to keep a record of all emissions related maintenance

activities performed on the Permittee's mobile sources stationed at the facility. The emissions related maintenance are to be performed according to the best management practice.

4. Asbestos Demolition/Renovation

The Permittee is required to keep a record of all relevant paperwork on file. The relevant paperwork shall include, but not be limited to, the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.

5. Nonvehicle Air Conditioner Maintenance and/or Services

The Permittee is required to keep a record of all relevant paperwork to the applicable requirements of 40 CFR 82 - Subpart F on file.

**IX. COMPLIANCE ASSURANCE MONITORING (CAM)**

The requirements of the CAM rule, codified at 40 CFR Part 64 implement §§114(a)(1) and (a)(3) of the Clean Air Act, as amended, and apply wherever the following three criteria are met:

- The emission unit is subject to an emission limitation or standard for a particular pollutant;
- The emission unit uses a control device to achieve compliance with the emission limitation or standard; and
- The emission unit has potential, pre-control device emissions greater than the applicable major source threshold.

The CAM rule allows for two general approaches: continuous monitoring to determine compliance directly, such as using a continuous emission monitoring system (CEMS), or monitoring of control device operation within specified ranges of performance to provide reasonable assurance of compliance.

**Particulate Matter**

**A. Unit 1 and Unit 2**

1. Background

a. Emission Unit

Description: Unit 1 and Unit 2 Coal-Fired Utility Boilers

b. Applicable Regulation and Emissions Limit

Regulation: 40 CFR 60.42, Condition # II.C.2  
Emission Limit: Unit 1/ Unit 2– 0.034 lb/MMBtu

c. Monitoring Requirements: Continuous Opacity Monitoring System (COMS)

Control Technology: Fabric Filter (Baghouse)

2. Monitoring Approach

a. Indicator (I)

Visible emissions (Opacity) and bag conditions will be used as indicators

b. Measurement Approach (MA)

Visible Emissions (Opacity)

Visible emission (Opacity) will be measured continuously by each COMS installed on the outlet of each of the unit's fabric filters. Sampling and analyses of representative bag samples will be conducted at least annually. Baghouses inspection will be performed during scheduled major outages.

c. Indicator Range (IR)

Visible Emissions greater than 12 percent opacity based on a 3 hour rolling average (except during unit startup, shutdown, and malfunction).

d. Corrective Action Threshold (CAT)

If the 3-hour rolling average opacity exceeds the indicator range, SGS personnel will initiate an investigation of the control equipment within 24 hours for possible corrective action. If corrective action is required, SGS will proceed to implement such corrective action as soon as practicable in order to minimize possible exceedances of the PM<sub>10</sub> standards established in the permit.

SGS will also perform an annual performance test on each generating unit to determine compliance with the PM emission limit per EPA Reference Method 5.

e. Performance Criteria

Data Representativeness: Visible emissions (Opacity) are measured at the emission point (between the fabric filter outlet and the stack discharge).

QA/QC Practices and Criteria: TEP is required by the permit to meet the QA/QC requirements of 40 CFR 60, Appendix B, PS 1, "Specification and Test Procedures

for Opacity Continuous Emission Monitoring Systems in Stationary Sources”

Monitoring Frequency and Data: Continuous opacity monitoring with the data recorded as 6-minute averages.

Collection Procedure: Continuous Averaging Period; 3-hour rolling average of visible emissions (Opacity)

### 3. Justification

#### a. Background

The pollutant-specific emission unit (PSEU) is each of the coal-fired utility boilers. The PM is controlled by baghouses prior to the flue gas being discharged to the stack. The design collection efficiency of each baghouse is 99.9 percent or greater.

#### b. Rationale for Selection of Performance Indicator(s);

The presence of visible emissions, recorded as opacity with the COMS was selected as the performance indicator because it is indicative of operation of the fabric filter in a manner necessary to comply with the PM emission standard. When the fabric filter is operating properly, visible emissions from the exhaust will be minimal. Visible emissions greater than 12 percent for a 3-hour rolling average, as recorded by the COMS, indicates reduced performance of the PM control device; however, the presence of visible emissions (opacity) is used as the performance indicator.

#### c. Rationale for Selection of Indicator Level(s);

The selected indicator range of visible emissions greater than 12 percent opacity is based on a 3-hour rolling average. Past performance tests for Units 1 and 2 indicate that both units operate compliant with the PM limit by a comfortable margin while opacity observed during the 3-hour tests stays below 12 percent level. Although a 3-hour rolling average above 12 percent does not in itself constitute a violation of the PM standard, it does indicate that corrective action should be initiated so that any possible exceedance of the PM standard can be prevented.

| Unit 1 and Unit 2 PM Limits: 4 Joy Baghouses     |   |  |
|--|---|--|
| Indicators                                       | Indicator No. 1: Visible Emissions Opacity  | Indicator No. 2: Bag condition.  |
| Measurement Approach                             | Visible Emissions (Opacity) will be measured continuously with a continuous Opacity Monitoring System (COMS) installed on each stack.   | Sampling and analysis of representative bag samples will be done once per year. The analyses of representative bag samples will be used as a factor in determining when bag replacement is to be scheduled. The Baghouse will have an inspection and maintenance program that includes an internal inspection of the baghouse to be performed during a scheduled major outage. Any known broken bags will be either replaced or capped off until ready to be replaced. Compartments with one or more broken bags, that have not been capped off or replaced, will be isolated. |
| Indicator Range                                  | Visible Emissions greater than 12 percent Opacity based on a 3-hour rolling average (except during unit startup, shutdown, and malfunction as defined in Conditions #s I.D.8, 12, and 14 of Attachment "B" of this permit.).          | An excursion is defined as failure to sample and analyze bag condition at least once per year.   |
| Performance Criteria - Data Representativeness   | Visible emissions (Opacity is measured on stack)  | Scheduled internal baghouse inspection includes a visual inspection of the entire baghouse including individual bag compartments for signs of bag failure.   |
| Performance Criteria - Operation Status          | n/a   | n/a  |
| Performance Criteria - QA/QC Practices           | TEP is required by the permit to meet the QA/QC requirements of 40 CFR Part 60, Appendix B, Performance Specification 1, "Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources" | Experienced personnel perform inspections and maintenance.   |
| Performance Criteria - Monitoring Frequency      | Continuous opacity monitoring with data recorded as 6-minute averages.  | Varies.  |
| Performance Criteria - Data Collection Procedure | Continuous  | Results of inspections and maintenance activities performed are recorded. Results of annual bag analysis are kept on-file.   |
| Performance Criteria - Averaging Period          | 3-hour rolling average of visible emissions (Opacity)   | n/a  |

**B. Unit 3 and Unit 4**

PM: For the purposes of establishing and demonstrating compliance with the boiler emission limits, PM is defined to include only filterable particulate matter as measured by EPA Reference Method 5. Each of the units is subject to a filterable PM standard of 0.015 lb/MMBtu heat input, based on a three-hour averaging period, representing BACT. Other, less stringent PM standards (such as that under NSPS Subpart Da, 60.42a(a)) have been streamlined out of the permit.

PM<sub>10</sub>: For the purposes of establishing and demonstrating compliance with the boiler emission limits, PM<sub>10</sub> is defined to include both fine filterable particulate matter and condensable particulate matter as measured by EPA Reference Methods 201A and 202, respectively. Each of the units is subject to a PM<sub>10</sub> standard of 0.055 lb/MMBtu heat input, based on a three-hour averaging period, representing BACT.

1. Background

a. Emission Unit

Description: Unit 3 and Unit 4 Coal-Fired Utility Boilers

b. Applicable Regulation and Emissions Limit

Regulation: NSPS 60.42Da(a)(1); A.A.C.R18-2-406.A.4; and Permit Condition #III.C.1.b

Emission Limits: 0.015 lb/MMBtu 3 hour averaging period (PM); and  
0.055 lb/MMBtu 3 hour averaging period (PM<sub>10</sub> including filterable PM<sub>10</sub> and condensable PM<sub>10</sub>)

d. Monitoring Requirements: Continuous Opacity Monitoring System (COMS)

Control Technology: Fabric Filter (Baghouse)

2. Monitoring Approach

a. Indicator (I)

Visible emissions (Opacity)

b. Measurement Approach (MA)

Visible emission (Opacity) will be measured continuously by each COMS installed on the outlet of each of the unit's fabric filters.

c. Indicator Range (IR)

Visible Emissions greater than opacity baseline established pursuant to the permit upto a maximum of 8 percent based on a 24-hour rolling average.

d. Corrective Action Threshold (CAT)

If the 24-hour rolling average opacity exceeds the indicator range, SGS personnel will initiate an investigation of the control equipment within 24 hours for possible corrective action. If corrective action is required, SGS will proceed to implement such corrective action as soon as practicable in order to minimize possible exceedances of the PM<sub>10</sub> standards established in the permit.

SGS will also perform an annual performance test on each generating unit to determine compliance with the PM emission limit per EPA Reference Method 5.

e. Performance Criteria

Data Representativeness: Visible emissions (Opacity) are measured at the emission point (between the fabric filter outlet and the stack discharge).

QA/QC Practices and Criteria: TEP is required by the permit to meet the QA/QC requirements of 40 CFR 60, Appendix B, PS 1, "Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources"

Monitoring Frequency: Continuous opacity monitoring with the data recorded as 6-minute averages.

Data Collection Procedure: Continuous Averaging Period; 24-hour rolling average of visible emissions (Opacity)

3. Justification

a. Background

PSEU is each of the coal-fired utility boilers. The PM is controlled by baghouses prior to the flue gas being discharged to the stack. The design collection efficiency of each baghouse is 99.9 percent or greater.

b. Rationale for Selection of Performance Indicator(s);

The presence of visible emissions, recorded as opacity with the COMS was selected as the performance indicator because it is indicative of operation of the fabric filter in a manner necessary to comply with the PM emission standard. When the fabric filter is operating properly, visible emissions from the exhaust will be minimal. Visible emissions greater than the baseline established pursuant to the permit up to a maximum of 8 percent for a 24-hour rolling average, as recorded by the COMS, indicates reduced performance of the PM control device; however, the presence of visible emissions (opacity) is used as the performance indicator.

c. Rationale for Selection of Indicator Level(s);

The selected indicator range of visible emissions is based on a 24-hour rolling average. Past performance tests for Units 3 and 4 indicate that both units operate compliant with the PM limit by a comfortable margin while opacity observed during the 24-hour tests stays below 8 percent level. Although a 24-hour rolling average above 8 percent does not in itself constitute a violation of the PM standard, it does indicate that investigation and possible corrective action should be initiated so that any possible exceedance of the PM standard can be prevented.

| <b>Unit 3 and Unit 4 PM Limits: Fabric Filter Baghouses</b> |   |
|---|---|
| Indicator   | <i>Indicator No. 1: Visible Emissions Opacity</i>   |
| Measurement Approach  | Visible Emissions (Opacity) will be measured continuously with a continuous Opacity Monitoring System (COMS) installed on each stack.   |
| Indicator Range   | Visible Emissions on a 24-hour rolling average basis not to exceed an opacity baseline level established during each performance test conducted according to Condition III.C.4.b. The value of the opacity baseline level is determined by averaging all of the 6-minute average opacity values (reported to the nearest 0.1 percent opacity) from the COMS measurements recorded during each of the test run intervals conducted for the performance test, and then adding 5.0 percent opacity to the calculated average opacity value for all of the test runs. The value of the baseline level shall not exceed 8.0 percent. |

| <b>Unit 3 and Unit 4 PM Limits: Fabric Filter Baghouses</b> |  |
|---|--|
| Indicator Range (contd.)                                    | A 24-hour rolling average opacity excluding periods of facility startup, shutdown and malfunction that is greater than the established opacity baseline level triggers an alarm and constitutes an excursion. Each subsequent 24-hour rolling period during which the alarm continues for the same reason shall be considered a single excursion. An excursion from the indicator ranges does not necessarily indicate an exceedance, deviation, or violation, but is indicative of the need for investigation and possible corrective action to minimize the potential for an exceedance, deviation or violation. |
| Performance Criteria - Data Representativeness              | Visible emissions (Opacity is measured on stack)   |
| Performance Criteria - Operation                            | n/a  |
| Performance Criteria - QA/QC Practices                      | TEP is required by the permit to meet the QA/QC requirements of 40 CFR Part 60, Appendix B, Performance Specification 1, "Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources"  |
| Performance Criteria - Monitoring Frequency                 | Continuous opacity monitoring with data recorded as 6-minute averages.   |
| Performance Criteria - Data Collection Procedure            | Continuous   |
| Performance Criteria - Averaging Period                     | Initiate investigation and possible corrective action within 24 hours of triggering an excursion for Unit 3 or Unit 4.   |

**X. INSIGNIFICANT ACTIVITIES**

The following table includes a list of the activities proposed by TEP- SGS to be insignificant. In addition, this table includes an evaluation of whether the activity can be deemed as insignificant pursuant to A.A.C. R18-2-101.57. This table is not all inclusive meaning that it does not include all insignificant activities, there are activities not on this list that could be insignificant activities. This list is a determination of the most likely insignificant activities for SGS.

**List of Insignificant Activities**

| <b><i>ID. No.</i></b>    | <b><i>Activity</i></b>  | <b><i>Determination</i></b> | <b><i>Comment</i></b>                           |
|--------------------------|---|-----------------------------|---|
| <b>Unit 1 and Unit 2</b> |   |                             |   |
| 1                        | Unit 1 and Unit 2 condensate system vents, drains and reliefs | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 2                        | Unit 1 and Unit 2 condensate pump vent pump A                 | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 3                        | Unit 1 and Unit 2 condensate pump vent pump B                 | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 4                        | Unit 1 and Unit 2 condensate pump vent pump C                 | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 5                        | Unit 1 and Unit 2 gland steam condenser vent                  | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 6                        | Unit 1 and Unit 2 air ejector condenser vent                  | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 7                        | Unit 1 and Unit 2 feedwater system vents, drains and reliefs  | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 8                        | Unit 1 and Unit 2 feedwater heater 7 vent                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 9                        | Unit 1 and Unit 2 feedwater heater 6 vent                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 10                       | Unit 1 and Unit 2 feedwater heater 5 vent                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 11                       | Unit 1 and Unit 2 deaerating heater vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 12                       | Unit 1 and Unit 2 boiler feed pump A vent                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 13                       | Unit 1 and Unit 2 boiler feed pump A seal leakoff vent        | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 14                       | Unit 1 and Unit 2 boiler feed pump B vent                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 15                       | Unit 1 and Unit 2 boiler feed pump B seal leakoff vent        | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 16                       | Unit 1 and Unit 2 feedwater heater 3 vent                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 17                       | Unit 1 and Unit 2 feedwater heater 2 vent                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 18                       | Unit 1 and Unit 2 feedwater heater 1 vent                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 19                       | Unit 1 and Unit 2 boiler steam drum vents                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 20                       | Unit 1 and Unit 2 blowdown tank vent                          | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 21                       | Unit 1 and Unit 2 boiler emergency relief                     | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j |

| <b>ID. No.</b> | <b>Activity</b>   | <b>Determination</b> | <b>Comment</b>                                  |
|----------------|---|----------------------|---|
| 22             | Unit 1 and Unit 2 main transformer                                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 23             | Unit 1 and Unit 2 main auxiliary transformer (2)                      | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 24             | Unit 1 and Unit 2 excitation transformer                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 25             | Unit 1 and Unit 2 generator grounding transformer                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 26             | Unit 1 and Unit 2 hydrogen system vents                               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 27             | Unit 1 and Unit 2 stator cooling water vents                          | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 28             | Unit 1 and Unit 2 circulating water system vents, drains and reliefs  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 29             | Unit 1 and Unit 2 condenser vents                                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 30             | Unit 1 and Unit 2 condenser air removal vents                         | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 31             | Unit 1 and Unit 2 auxiliary steam system vents, drains, and reliefs   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 32             | Unit 1 and Unit 2 SDA lime system water vents, drains, and reliefs    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 33             | Unit 1 and Unit 2 condensate tank vent                                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 34             | Unit 1 and Unit 2 cooling water storage tank vent                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 35             | Unit 1 and Unit 2 cooling water system vent, drain, and relief        | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 36             | Unit 1 and Unit 2 water/steam sampling system vent, drain, and relief | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 37             | Unit 1 and Unit 2 polish system vent, drain, and relief               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 38             | Unit 1 and Unit 2 polisher acid day tank vent                         | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 39             | Unit 1 and Unit 2 polisher caustic day tank vent                      | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 40             | Unit 1 and Unit 2 polisher vessel A vent                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 41             | Unit 1 and Unit 2 polisher vessel B vent                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 42             | Unit 1 and Unit 2 polisher vessel C vent                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 43             | Unit 1 and Unit 2 chemical feed system vents, drains, and reliefs     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 44             | Unit 1 and Unit 2 ammonia tank vent                                   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |

| <b>ID. No.</b> | <b>Activity</b>   | <b>Determination</b> | <b>Comment</b>   |
|----------------|---|----------------------|--|
| 45             | Unit 1 and Unit 2 hydrazine tank vent                                   | Yes                  | Total annual ammonia usage facility wide is 1400 lbs (it is less than 10,000 lbs). There is no applicable requirement. |
| 46             | Unit 1 and Unit 2 phosphate dissolving hopper                           | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 47             | Unit 1 and Unit 2 phosphate day tank                                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 48             | Unit 1 and Unit 2 continuous emissions monitors                         | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 49             | Bottom ash dewatering bin A   | Yes                  | CEM is a monitoring system.  |
| 50             | Bottom ash dewatering bin B   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 51             | Bottom ash settling tank  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 52             | Bottom ash surge tank   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 53             | Lube oil system vents, drains, and reliefs                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 54             | Clean lube oil storage tank vent  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 55             | Auxiliary boiler system vents, drains, and reliefs for steam            | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 56             | Auxiliary boiler deaerator vent   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 57             | Auxiliary boiler condensate system emergency relief vents               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 58             | Auxiliary boiler feedwater system emergency relief vents                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 59             | Auxiliary boiler steam drum emergency relief vents                      | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 60             | Auxiliary boiler chemical feed water system vents, drains, and reliefs  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 61             | Auxiliary boiler chemical feed water system ammonia tank vent           | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 62             | Auxiliary boiler chemical feed water system hydrazine tank vent         | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 63             | Auxiliary boiler chemical feed water system phosphate dissolving hopper | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 64             | Auxiliary boiler chemical feed water system phosphate day tank          | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 65             | Raw water system vents, drains, and reliefs                             | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 66             | Service water system vents, drains, and reliefs                         | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |

| <b>ID. No.</b> | <b>Activity</b>                                   | <b>Determination</b> | <b>Comment</b>                                  |
|----------------|---|----------------------|---|
| 67             | Water treatment system vents, drains, and reliefs | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 68             | Water treatment lime suction tanks                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 69             | Water treatment influent tank 1                   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 70             | Water treatment influent tank 2                   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 71             | Water treatment reactivator 1                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 72             | Water treatment reactivator 2                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 73             | Reactivator 1 effluent tank                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 74             | Reactivator 2 effluent tank                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 75             | Reactivator sludge thickener tank                 | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 76             | Reactivator sludge thickener supernatant tank     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 77             | Soda ash solution tanks                           | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 78             | Coagulant aid drum                                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 79             | Coagulant aid solution tank                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 80             | Backwash storage tank                             | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 81             | ROSEP acid day tank                               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 82             | Filtered water cartridge filter                   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 83             | Vacuum Degasifier Vent                            | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 84             | Reverse Osmosis Treated Water Tank Vent           | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 85             | ROSEP Chemical Cleaning Batch Tank                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 86             | Demineralizer Cation Vessel (2) Vent              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 87             | Demineralizer Anion Vessel (2) Vent               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 88             | Demineralizer Mixed Bed Vessel (2) Vent           | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 89             | Demineralizer Acid Day Tank                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |

| <b>ID. No.</b> | <b>Activity</b>  | <b>Determination</b> | <b>Comment</b>   |
|----------------|--|----------------------|--|
| 90             | Demineralizer Caustic Day Tank                                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 91             | Demineralizer Hot Water Tank                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 92             | Common Condensate Tank Vent  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 93             | Potable Water System Hypochlorite Tank                             | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 94             | Potable Water Head Tank Vent                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 95             | Potable Water System Vents, Drains, and Reliefs                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 96             | Polishing Demineralizer Acid Storage Tank Vent                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 97             | Polishing Demineralizer Caustic Storage Tank Vent                  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 98             | Bulk Ammonia Storage Tank Water Treatment Acid Storage Tank A Vent | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 99             | Water Treatment Acid Storage Tank B Vent                           | Yes                  | Total annual ammonia usage facility wide is 1400 lbs (it is less than 10,000 lbs). There is no applicable requirement. |
| 100            | Water Treatment Acid Storage Tank C Vent                           | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 101            | Water Treatment Caustic Storage Tank A Vent                        | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 102            | Water Treatment Caustic Storage Tank B Vent                        | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 103            | Cooling Tower Acid Tank Vent                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 104            | Cooling Tower Dispersant Tank Vent                                 | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 105            | Power Building HVAC System Vents, Drains, and Reliefs              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 106            | Service Air System Vents, Drains, and Reliefs                      | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 107            | Instrument Air System Vents, Drains, and Reliefs                   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 108            | Yard Loop Header System Vents, Drains, and Reliefs                 | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 109            | Nitrogen System (Unit 1 and Unit 2) Vents, Drains, and Reliefs     | Yes                  | It is used to prevent oxygen into the boiler. Insignificant pursuant to A.A.C. R18-2-101.57.j                          |
| 110            | Hydrogen System (Unit 1 and Unit 2) Vents, Drains, and Reliefs     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |

| <b>ID. No.</b> | <b>Activity</b>   | <b>Determination</b> | <b>Comment</b>                                  |
|----------------|---|----------------------|---|
| 111            | Polisher Resin Separation & Cation Regeneration Vessel Vent | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 112            | Polisher Anion Regeneration Vessel Vent                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 113            | Polisher Mixing and Storage Vessel Vent                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 114            | Neutralizing System Vents, Drains and Reliefs               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 115            | Neutralizing Tank A   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 116            | Neutralizing Tank B   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 117            | Oily Waste System Vents, Drains, and Reliefs                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 118            | Oil Waste Surge Tank Vent, Oil/Water Separator Vent         | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 119            | Oil Separator Discharge Tank Waste water Storage Tank       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 120            | Sewer System Vents, Drains, and Reliefs                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 121            | Building Latrine Vents                                      | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 122            | Sewage Treatment Facility                                   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 123            | Raw Water Storage Reservoir A                               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 124            | Raw Water Storage Reservoir B                               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 125            | Makeup Water Reservoir A                                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 126            | Makeup Water Reservoir B                                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 127            | Recoverable Pond A  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 128            | Recoverable Pond B  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 129            | Cooling Tower Blowdown Pond A                               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 130            | Cooling Tower Blowdown Pond B                               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 131            | Process Waste Water Pond                                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 132            | Sludge Pond A   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 133            | Sludge Pond B   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |

| <b>ID. No.</b> | <b>Activity</b>   | <b>Determination</b> | <b>Comment</b>  |
|----------------|---|----------------------|---|
| 134            | Sludge Pond C   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 135            | Sludge Pond D   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 136            | Storm Water Run Off Pond #1                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 137            | Storm Water Run Off Pond #2                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 138            | Storm Water Run Off Pond #3                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 139            | Coal Pile Run Off Pond  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 140            | Sewage Treatment Pond A   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 141            | Sewage Treatment Pond B   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 142            | Evaporation Pond #1 (When dry, it is subject to A.A.C. R18-2-604) | Yes                  | Only water evaporates from the pond.<br>Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 143            | Evaporation Pond #2 (When dry, it is subject to A.A.C. R18-2-604) | Yes                  | Only water evaporates from the pond.<br>Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 144            | Evaporation Pond #3 (When dry, it is subject to A.A.C. R18-2-604) | Yes                  | Only water evaporates from the pond.<br>Insignificant pursuant A.A.C. R18-2-101.57.j    |
| 145            | Evaporation Pond #4 (When dry, it is subject to A.A.C. R18-2-604) | Yes                  | Only water evaporates from the pond.<br>Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 146            | Evaporation Pond #5 (When dry, it is subject to A.A.C. R18-2-604) | Yes                  | Only water evaporates from the pond.<br>Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 147            | Evaporation Pond #6 (When dry, it is subject to A.A.C. R18-2-604) | Yes                  | Only water evaporates from the pond.<br>Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 148            | Proposed unit 1 and Unit 2 Evaporation pond #7                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 149            | Water Treatment Laboratory Activities                             | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.I   |
| 150            | Coal Laboratory Activities  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.I   |

| <b>ID. No.</b> | <b>Activity</b>   | <b>Determination</b> | <b>Comment</b>   |
|----------------|---|----------------------|--|
| 151            | Environmental Laboratory Activities   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.I  |
| 152            | General Station Maintenance Activities and Associated Equipment   | No                   | Case by case determination   |
| 153            | Natural Gas, Propane, Butane, Liquefied Petroleum Gas, Acetylene Storage Tanks, and Torches                                 | Yes                  | The tanks are very small size, about 20-30 gallons. Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 154            | Diesel Storage Tank   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j<br>Note: One of diesel storage tank is rated at 1 MM gals. This tank was moved to SGS in 1980. It is before the NSPS Subpart Kb promulgated date. Hence there is no applicable rule for this tank. |
| 155            | Diesel Unloading, Pumping and Transfer System   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 156            | Waste Oil Drum Storage Area   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 157            | Waste Oil Storage Tank  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 158            | Waste Storage Area  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 159            | Building Housekeeping Activities  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.a  |
| 160            | Site Housekeeping Activities Including Vacuum Truck and Spill Cleanup   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.a, j   |
| 161            | Landscaping and Site Housekeeping Activities  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.a  |
| 162            | Use of Pesticides, Fumigants and Herbicides   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 163            | Grounds keeping Activities  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.a  |
| 164            | Industrial Vacuum Cleaners  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 165            | Use of Consumer Products (Product use at site in same manner as normal consumer use)  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 166            | Automobile, Station Wagon, Pickup Truck or Van Use at Site  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 167            | Medical Activities (Activities directly used in the diagnosis and treatment of disease, injury or other medical condition). | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |

| <b>ID. No.</b> | <b>Activity</b>  | <b>Determination</b> | <b>Comment</b>  |
|----------------|--|----------------------|---|
| 168            | Manually Operated Equipment (Equipment used for buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, surface grinding or turning and associated venting hoods)   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.f   |
| 169            | Individual Equipment Joints and Attachments (All flanges, piping and piping attachments, valves, pump seals, pressure relief valves, safety valves that connect or hold together piping systems or protect systems from over pressurization) | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 170            | Battery Banks and Recharging Area  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 171            | Plastic Pipe Welding   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 172            | Steam Cleaning (Equipment used exclusively for portable steam cleaning)  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 173            | Pump/Motor Lubricating Oil Reservoirs, Hydraulic Oil Reservoirs, Turbine Lubricating Oil Reservoirs  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 174            | Adhesive Usage Not Related to Production   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 175            | Caulking Operation that are not part of production   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 176            | Electric Motors  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 177            | High Voltage Induced Corona  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 178            | Safety devices (Fire extinguishers, fire suppressions systems, deluge systems)   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 179            | Filter Draining  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 180            | Soil gas Sampling  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 181            | General Vehicle Maintenance  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 182            | Carbon Dioxide System (Unit 1 and Unit 2) Vents, Drains and Reliefs  | Yes                  | This is only for fire quenching system. Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 183            | Aerosol Can Use  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 184            | Cathodic Protection Systems  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 185            | Cafeteria Activities   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 186            | Circuit Breakers   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |

| <i><b>ID.<br/>No.</b></i> | <i><b>Activity</b></i>   | <i><b>Determination</b></i> | <i><b>Comment</b></i>                            |
|---------------------------|--|-----------------------------|--|
| 187                       | Water Treatment Acid Storage Tank A Vent                       | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| <b>Unit 3 and Unit 4</b>  |  |                             |  |
| 1                         | Unit 3 and Unit 4 condensate system vents, drains, and reliefs | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 2                         | Unit 3 and Unit 4 condensate pump vent pump A                  | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 3                         | Unit 3 and Unit 4 condensate pump vent pump B                  | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 4                         | Unit 3 and Unit 4 gland steam condenser vent                   | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 5                         | Unit 3 and Unit 4 air ejector condenser vent                   | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 6                         | Unit 3 and Unit 4 feedwater system vents, drains, and reliefs  | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 7                         | Unit 3 and Unit 4 feedwater heater 7 vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 8                         | Unit 3 and Unit 4 feedwater heater 6 vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 9                         | Unit 3 and Unit 4 feedwater heater 5 vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 10                        | Unit 3 and Unit 4 deaerating heater vent                       | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 11                        | Unit 3 and Unit 4 boiler feed pump B vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 12                        | Unit 3 and Unit 4 boiler feed pump A seal leakoff vent         | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j. |
| 13                        | Unit 3 and Unit 4 boiler feed pump B vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 14                        | Unit 3 and Unit 4 boiler feed pump B seal leakoff vent         | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 15                        | Unit 3 and Unit 4 feedwater heater 3 vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 16                        | Unit 3 and Unit 4 feedwater heater 2 vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 17                        | Unit 3 and Unit 4 feedwater heater 1 vent                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 18                        | Unit 3 and Unit 4 boiler steam drum vents                      | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 19                        | Unit 3 and Unit 4 blowdown tank vent                           | Yes                         | Insignificant pursuant to A.A.C. R18-2-101.57.j  |

| <b>ID. No.</b> | <b>Activity</b>   | <b>Determination</b> | <b>Comment</b>                                  |
|----------------|---|----------------------|---|
| 20             | Unit 3 and Unit 4 boiler emergency relief                             | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 21             | Unit 3 and Unit 4 main transformer                                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 22             | Unit 3 and Unit 4 main auxiliary transformer (1)                      | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 23             | Unit 3 and Unit 4 generator grounding transformer                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 24             | Unit 3 and Unit 4 hydrogen system vents                               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 25             | Unit 3 and Unit 4 circulating water system vents, drains and reliefs  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 26             | Unit 3 and Unit 4 condenser vents                                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 27             | Unit 3 and Unit 4 condenser air removal vents                         | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 28             | Unit 3 and Unit 4 auxiliary steam system vents, drains, and reliefs   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 29             | Unit 3 and Unit 4 SDA lime system water vents, drains, and reliefs    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 30             | Unit 3 and Unit 4 condensate tank vent                                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 31             | Unit 3 and Unit 4 cooling water storage tank vent                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 32             | Unit 3 and Unit 4 cooling water system vent, drain, and relief        | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 33             | Unit 3 and Unit 4 water/steam sampling system vent, drain, and relief | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 34             | Unit 3 and Unit 4 polish system vents, drain, and reliefs             | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 35             | Unit 3 and Unit 4 polisher vessel A vent                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 36             | Unit 3 and Unit 4 polisher vessel B vent                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |
| 37             | Unit 3 and Unit 4 polisher vessel D vent                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j |

| <b>ID. No.</b> | <b>Activity</b>   | <b>Determination</b> | <b>Comment</b>   |
|----------------|---|----------------------|--|
| 38             | Unit 3 and Unit 4 chemical feed system vents, drains, and reliefs | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 39             | Unit 3 and Unit 4 ammonia tank vent                               | Yes                  | Total ammonia usage for whole facility is < 10,000 lbs. There is no applicable requirement |
| 40             | Unit 3 and Unit 4 hydrazine tank vent                             | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 41             | Unit 3 and Unit 4 phosphate dissolving Hooper                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 42             | Unit 3 and Unit 4 phosphate day tank                              | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 43             | Unit 3 and Unit 4 continuous emissions monitors                   | Yes                  | CEM is a monitoring system   |
| 44             | Lube oil system vents, drains, and reliefs                        | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 45             | Service water system vents, drains, and reliefs                   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 46             | Water treatment system vents, drains, and reliefs                 | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 47             | Water treatment lime suction tanks                                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 48             | Water treatment influent tank 1                                   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 49             | Water treatment reactivator 1                                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 50             | Water treatment reactivator 2                                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 51             | Reactivator 1 effluent tank                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 52             | Reactivator 2 effluent tank                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 53             | Reactivator sludge thickener tank                                 | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 54             | Reactivator sludge thickener supernatant tank                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 55             | Soda ash solution tanks   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 56             | Coagulant aid drum  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 57             | Coagulant aid solution tank                                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 58             | Backwash storage tank   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 59             | ROSEP acid day tank   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |

| <b>ID. No.</b> | <b>Activity</b>                                       | <b>Determination</b> | <b>Comment</b>  |
|----------------|---|----------------------|---|
| 60             | Filtered water cartridge filter                       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 61             | Vacuum Degasifier Vent                                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 62             | Reverse Osmosis Treated Water Tank Vent               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 63             | ROSEP Chemical Cleaning Batch Tank                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 64             | Demineralizer Mixed Bed Vessel (2) Tank               | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 65             | Demineralizer Acid Day Tank                           | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 66             | Demineralizer Caustic Day Tank                        | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 67             | Demineralizer Hot Water Tank                          | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 68             | Potable Water System Vents, Drains, and Reliefs       | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 69             | Bulk Ammonia Storage Tank                             | Yes                  | Total ammonia usage for whole facility is < 10,000 lbs. There is no applicable requirement. |
| 70             | Water Treatment Acid Storage Tank                     | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 71             | Water Treatment Caustic Storage Tank A                | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 72             | Cooling Tower Acid Tank Vent                          | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 73             | Cooling Tower Dispersant Tank Vent                    | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 74             | Power Building HVAC System Vents, Drains, and Reliefs | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 75             | Service Air System Vents, Drains and Reliefs          | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 76             | Instrument Air System Vents, Drains, and Reliefs      | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j   |
| 77             | Nitrogen System Vents, Drains, and Reliefs            | Yes                  | Insignificant pursuant to   |
| 78             | Hydrogen System Vents, Drains, and Reliefs            | Yes                  | A.A.C. R18-2-101.57.j   |
| 79             | Neutralizing System Vents, Drains, and Reliefs        | Yes                  | Insignificant pursuant to   |
| 80             | Neutralizing Tank                                     | Yes                  | A.A.C. R18-2-101.57.j   |
| 81             | Oily Waste System Vents, Drains, and Reliefs          | Yes                  | Insignificant pursuant to   |

| <b>ID. No.</b> | <b>Activity</b>   | <b>Determination</b> | <b>Comment</b>   |
|----------------|---|----------------------|--|
| 82             | Oil Waste Surge Tank Vent Oil/Water Separator Vent  | Yes                  | A.A.C. R18-2-101.57.j  |
| 83             | Oil Separator Discharge Tank waste Water Storage Tank   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 84             | Sewer System Vents, Drains and Reliefs  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 85             | Building Latrine Vents  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 86             | Treated Water Reservoir A   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 87             | Treated Water Reservoir B   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 88             | Evaporation Ponds: Unit 3 East and west, Unit 3 1E and 1F, Unit 4 1A-1D, and proposed Unit 3 and Unit 4 G-K | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 89             | Unit 3 Cooling Tower Blowdown Storage Pond  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 90             | Combined Effluent Pond  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 91             | Unit 3 Lime Sludge Storage Ponds South and North  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 92             | Construction Run-off Pond #s 1 and 2  | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 93             | Coal Pile Area Run-off Pond   | Yes                  | Insignificant pursuant to A.A.C. R18-2-101.57.j  |
| 94             | General Station Maintenance Activities and Associated Equipment   | No                   | Case by case determination   |
| 95             | Natural Gas, Propane, Butane, Liquefied Petroleum Gas, Acetylene Storage Tanks, and Torches                 | Yes                  | These tanks are of very small size, about 20-30 gallons. Insignificant pursuant to A.A.C. R18-2-101.57.j |

**XI. LIST OF ABBREVIATIONS**

A.A.C. .... Arizona Administrative Code  
ADEQ ..... Arizona Department of Environmental Quality  
BACT ..... Best Available Control Technology  
CAM ..... Compliance Assurance Monitoring  
CAT ..... Corrective Action Threshold  
CEMS ..... Continuous Emission Monitoring System  
CFR ..... Code for Federal Regulations  
CO ..... Carbon Monoxide

|                                |  |
|--------------------------------|--|
| COMS                           | Continuous Opacity Monitoring System                     |
| EPA                            | Environmental Protection Agency                          |
| GPH                            | Gallons per Hour   |
| H <sub>2</sub> SO <sub>4</sub> | Sulphuric Acid   |
| HVAC                           | Heating, Ventilation, and Air Conditioning               |
| ICE                            | Internal Combustion Engine                               |
| I                              | Indicator  |
| IR                             | Indicator Range  |
| lb/hr                          | Pounds per Hour  |
| MA                             | Measurement Approach                                     |
| MACT                           | Maximum Achievable Control Technology                    |
| MMBtu                          | Million British Thermal Units                            |
| MW                             | Mega Watt  |
| NAAQS                          | National Ambient Air Quality Standard                    |
| NESHAP                         | National Emission Standards for Hazardous Air Pollutants |
| NO <sub>x</sub>                | Nitrogen Oxide   |
| NO <sub>2</sub>                | Nitrogen Dioxide   |
| NSPS                           | New Source Performance Standards                         |
| O <sub>3</sub>                 | Ozone  |
| Pb                             | Lead   |
| PM                             | Particulate Matter                                       |
| PM <sub>10</sub>               | Particulate Matter Nominally less than 10 Micrometers    |
| PM <sub>2.5</sub>              | Particulate Matter Nominally less than 2.5 Micrometers   |
| PRB                            | Powder River Basin                                       |
| PSD                            | Prevention of Significant Deterioration                  |
| PSEU                           | Pollutant -Specific Emission Unit                        |
| PTE                            | Potential-to-Emit  |
| QA/QC                          | Quality Assurance/Quality Control                        |
| SCR                            | Selective Catalytic Reduction                            |
| SDA                            | Spray Dry Absorbers                                      |
| SIC                            | Standard Industrial Classification                       |
| SGS                            | Springerville Power Generating Station                   |
| SO <sub>2</sub>                | Sulfur Dioxide   |
| SO <sub>3</sub>                | Sulfur Trioxide  |
| TEP                            | Tucson Electric Power Company                            |
| TPY                            | Tons per Year  |
| VOC                            | Volatile Organic Compound                                |