



**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT No. 92117**

I. INTRODUCTION

This Class I Renewal permit is required for the continued operation of Arizona Public Service Company (APS)'s Cholla Generating Station. Permit No. 92117 renews and supersedes Permit No. 65054. Permit No. 65054 had an expiration date of May 25, 2022, and the application for this permit renewal was submitted on November 18, 2021. This submission satisfied the permit condition requiring that a complete and timely application be submitted by the Permittee at least six (6) months, but no earlier than eighteen (18) months, prior to the expiration date of the current permit.

A. Company Information

Facility Name: Cholla Generating Station
 Mailing Address: P.O. Box 188
 Joseph City, AZ 86032
 Facility Location: 4801 Cholla Lake Rd
 Joseph City, Navajo County, AZ 86032

B. Attainment Classification

This facility is located in an area that is classified as in attainment or unclassifiable for all criteria pollutants.

II. PROCESS DESCRIPTION

A. Process Equipment

1. Electricity Generation

The Cholla Generating Station consists of two coal-fired steam generating units, Unit 1 and Unit 3, associated air pollution control devices, and the auxiliary equipment necessary to produce approximately 436 megawatts (MW) of electricity. Unit 1 was completed in 1962 and Unit 3 was completed in 1980. Units 2 and 4 were permanently shut down on October 1, 2015 and December 30, 2020, respectively. The maximum process rates and operating hours of the steam units at the Cholla Generating Station are summarized in Table 1.

Table 1: Maximum Process Rates and Operating Hours

Emission Unit	Maximum Annual Hours of Operation	Gross MW Rating	Gross MW-hr/yr
Steam Boiler Unit 1	8,760	131 MW	1,095,000

Steam Boiler Unit 3	8,760	305 MW	2,671,800
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The Cholla Generating Station is a Steam Electric Station, Standard Industrial Code (SIC) 4911 Electric Generation, consisting of two units (Units 1 and 3) which are coal-fired steam boilers with Source Classification Code (SCC) #1-01-002-26. Pulverized coal is tangentially fired into the dry bottom furnace of each unit. Unit 1 has a separate individual stack., whereas Unit 3 has a unique stack configuration where the exhaust stream duct work from Unit 3 enters the Unit 2/3 stack. The flue gas from Unit 3 does not mix or enter into the decommissioned Unit 2 side of the stack. Units 1 and 3 are each equipped with a fabric filter device for control of particulate matter emissions. In addition, Unit 1 has a tray tower absorber system and Unit 3 has a spray tower absorber for controlling sulfur dioxide (SO₂) emissions. Both Units have also been retrofitted with low-NO_x burners (LNBS) and overfire air systems to reduce NO_x emissions. Lastly, each Unit is equipped with a sorbent injection system to reduce mercury emissions. Pollution control devices are discussed in more detail in Section II.B.

Both Units combust bituminous/sub-bituminous coal to heat high purity water to create super-heated steam which is used as the thermodynamic medium that drives the turbines/generators to produce electricity. Unit coal silos feed the coal gravitationally to feeders, which then supply each pulverizer. The pulverizers then grind the coal to the consistency of talcum-powder before firing it in the furnace. There are two emergency diesel-fired generators located at Units 2 and 3 for purposes of safely shutting down a Unit in the case of a loss of off-site power. Unit 1 uses natural gas and Unit 3 uses diesel fuel #2 as the warm-up/ stabilization fuel. Condenser cooling for Unit 1 is provided by the Cholla Reservoir, while Unit 3 has a mechanical draft cooling tower that receives make-up water from the Cholla Reservoir.

2. Coal Handling

Coal for the facility is supplied by the Lee Ranch and El Segundo mines near Grants, New Mexico. The coal is transported to the Cholla Generating Station via trains, and unloaded at a coal handling facility, which includes a Coal Preparation Plant that directs coal to the two units and a main coal pile. Two track feeder systems, "old" and "new", are used to unload coal directly to either of the two units, the main coal pile, or any combination thereof. The main coal pile contains approximately a 45-day supply of coal.

Coal unloaded at the coal handling facility is released through the bottom of the train rail cars to one of two large grates known as grizzlies. The coal collected below the grizzly at the old track feeders is loaded to a coal conveying belt which travels to coal crusher tower #1, where the coal can be crushed and directed to either the Unit 1 silos, the main coal pile, or to coal crusher tower #2. The coal collected below the grizzly at the new track feeders is loaded to a coal conveying belt, which travels to coal crusher tower #2, where the coal can be crushed and directed to either the Unit 3 silos, the main coal pile, or to coal crusher tower #1.

Reclaim off of the bottom of the main pile is collected and transported to Units 1 and 3. The coal conveyor belts feed the top of the coal silos for each Unit.

Both Units at the Cholla Generating Station typically burn a combined total of 1.5 million tons of coal annually, or about 70% of the combined total potential burn rate of approximately 2.1 million tons. Table 2 presents the typical characteristics of the coal fired at Cholla Generating Station.

Table 2: Coal Characteristics

Coal Parameter	Lee Ranch/ El Segundo
Heating Value (Btu/lb)	9,154 (Range: 8,800 to 11,500)
SO ₂ Content (lb/MMBtu)	2.21
Sulfur Content	1.01% (Range: 0%-1.2%)
Ash	17.30% (Range: 0%-22%)
Moisture	15.50% (Range: 10%-30%)

3. Other Equipment and Operations

Other equipment and operations at the Cholla Generating Station include:

- Fly ash handling equipment
- Limestone handling and slaking equipment,
- One (1) emergency natural gas-fired generator located at the Administrative Building and two (2) emergency diesel fire pump engines
- A bottom ash pond
- Diesel and fuel oil storage tanks, and
- Two (2) wastewater treatment plants

B. Control Devices

Air pollution controls utilized at the Cholla Generating Station are summarized below in Table 3. Additional information regarding the control devices serving Units 1 and 3 is provided below Table 3.

Table 3: Cholla Generating Station Air Pollution Controls

Equipment	PM	SO ₂	NO _x	Hg
Unit 1	Fabric Filter	2 tray tower absorbers with lime reagent; 90% SO ₂ removal	Low NO _x Burners and Overfire Air	Sorbent Injection System
Unit 3	Fabric Filter	SO ₂ Spray Tower Absorber	Low NO _x Burners and Overfire Air	Sorbent Injection System
Fly Ash Silo	Baghouse	N/A	N/A	N/A
Lime Silo	Baghouse	N/A	N/A	N/A
Lime Slaker Vent	Wet scrubber	N/A	N/A	N/A
Coal Handling Facility	Dust collectors or wetting systems with chemical suppressant	N/A	N/A	N/A
Sorbent Injection System	Silo Bin Vent Filters	N/A	N/A	N/A

1. Fabric Filter Baghouses

Each Unit is equipped with a fabric filter baghouse to control particulate matter emissions. The fabric filters remove particle matter from the contaminated gas stream by utilizing fabric filtration to deposit the particles onto the fabric material. Removal of particle matter in the fabric filter is due more to the accumulated dust cake on the fabric rather than the fabric itself. The fabric filters are designed to remove 99.9% of particulate matter emissions from the boiler flue gas.

2. Tray Tower Absorber and Spray Tower Absorber (SO₂ Absorbers)

Two tray tower absorbers on Unit 1 and a spray tower absorber on Unit 3 are utilized to control SO₂ emissions. Both absorbers utilize lime as the reagent, which absorbs and reacts with the SO₂ in the boiler flue gas to reduce SO₂ emissions. Absorbed SO₂ reacts with the lime to form calcium sulfite, and air introduced into the slurry further oxidizes the calcium sulfite to calcium sulfate (gypsum), which is then collected and disposed of.

3. Low-NO_x Burners and Overfire Air

For control of emissions of nitrogen oxides (NO_x), Units 1 and 3 are equipped with low-NO_x burners (LNBS), and separated overfire air is applied to Unit 1 while separated and closed coupled overfire air is applied to Unit 3. The LNBS reduce the formation of NO_x by burning the coal in a fuel-rich, reducing environment. This reduces the concentration of oxygen available for reaction with fuel nitrogen and reduces flame temperatures to minimize thermal NO_x formation. The overfire

air allows for additional combustion air to be introduced either above and/or below the burner zone. This serves to partially delay and extend the combustion process, resulting in less intense combustion and cooler flame temperature, which suppresses the formation of thermal NO_x. It also suppresses fuel NO_x formation by reducing the concentration of air in the combustion zone.

4. Sorbent Injection Systems (Mercury Reduction Systems)

Units 1 and 3 each utilize a sorbent injection system in order to control mercury emissions. The sorbent currently being used is Power PAC (Powdered Activated Carbon) Premium Plus. This mercury-adsorbing sorbent is injected into the flue duct of each Unit where it mixes with the boiler flue gas and adsorbs the vapor-phase mercury. The sorbent is then captured by the fabric filters.

C. Process Flow Diagrams

APS provided the following process flow diagrams for Steam Boiler Units 1 and 3 in their application:

Figure 1. Unit 1 Process Flow Diagram

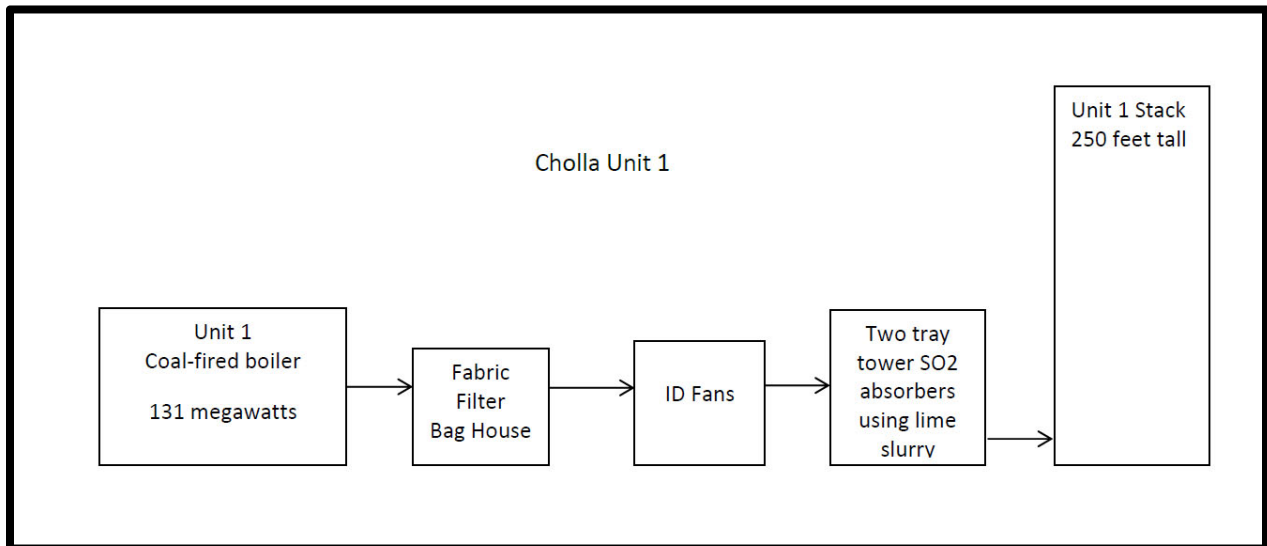
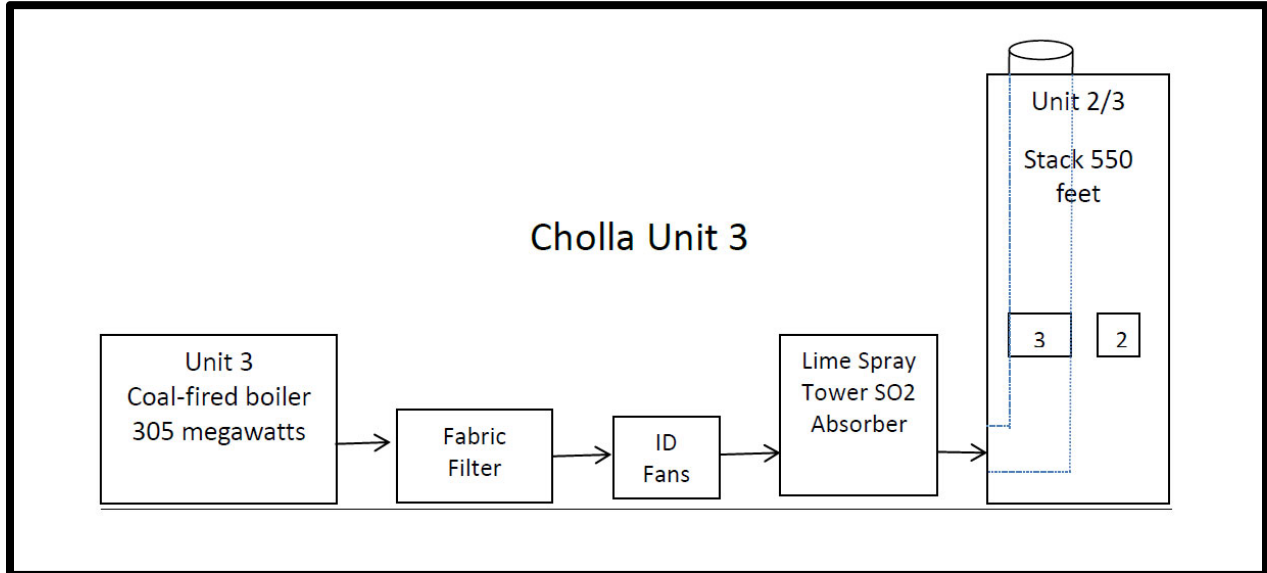


Figure 2. Unit 3 Process Flow Diagram



III. LEARNING SITE EVALUATION

In accordance with ADEQ's Environmental Permits and Approvals near Learning Sites Policy, the Department is required to conduct 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 modifications at the facility associated with this permit renewal. Any increases in the potential-to-emit associated with this renewal are due to changes and corrections in calculation methodology rather than modifications at the facility. Therefore, this renewal is exempt from the learning sites evaluation.

IV. COMPLIANCE HISTORY

A. Compliance Status

A review of the compliance records for the facility indicates that there are no pending air quality cases. During the previous permit term, ADEQ reviewed the following reports for Cholla Generating Station:

- Semi-Annual Regional Haze BART Emissions Reports for 10 reporting periods
- Semi-Annual MATS Rule Compliance Reports as required under 40 CFR Part 63, Subpart UUUUU for 10 reporting periods

- Quarterly CEMS Emissions and Performance reports for Steam Boiler Unit 1 as required under A.A.C. R18-2-703.J for 19 reporting periods
- Quarterly Excess Emission and Monitoring System Performance (EE-MSP) Reports for the CEMS on Steam Boilers Units 3 and 4 (until shutdown of Unit 4) as required under 40 CFR Part 60 for 19 reporting periods
- 9 Semi-Annual Compliance Certifications
- 3 Permit Deviation Reports and 2 Excess Emissions Reports (Discussed further in Section IV.C)

Any deficiencies that were noted during these report reviews that escalated to the level of a permit deviation or excess emission report are discussed below in Section IV.B. ADEQ also conducted six (6) inspections over the course of the permit term: one routine inspection in 2017, one partial inspection in 2020, full inspections in 2018 and 2019, and two full inspections in 2021. The most recent inspection was conducted on November 9, 2021. No deficiencies were noted during the course of any of these inspections.

B. Compliance Schedule

The Arizona Regional Haze State Implementation Plan (SIP) for Cholla Generating Station, which was incorporated into the permit in Significant Permit Revision #61716 (discussed further in the Section VI. Applicable Requirements), included a compliance schedule for Units 1 and 3. Under the compliance schedule, the Units must stop burning coal, fuel oil, and used oil by April 30, 2025, and may be converted to natural gas operation by July 31, 2025.

C. Permit Deviations and Excess Emissions

1. Permit Deviations

- a. Expiration of Method 9 Certifications (Inspection ID #s 361018 and 373114)

Permit deviation reports were received on November 10, 2020 and May 10, 2021 due to the prolonged expiration of the Method 9 Certifications held by those at the facility. The permit requires that a current Method 9 certification be held by those performing Method 9 opacity readings on site. The extended lapse in certification was due to the cancelation of Method 9 recertification classes due to COVID-19 and the Permittee's decision to take the precaution of not sending staff to classes after they had been resumed in order to continue the Permittee's practice of social distancing. The deviation occurred from April 15, 2020 through April 12, 2021. The Permittee began having staff recertified on April 13, 2021 once they had deemed it safe to send staff to classes once again. While certifications were lapsed, the Permittee ensured that Method 9 observations made during the compliance period were performed by

someone who had previously been Method 9 certified prior to class cancellations.

b. SO₂ Emissions Reporting Error (Inspection ID #386102)

A permit deviation report was received on November 8, 2021 for a reporting error discovered by ADEQ during review of the Permittee's CEMS Report for Steam Boiler Unit 1 that was submitted for Quarter 3 of 2021. The reporting error was found to be present in all quarterly Unit 1 CEMS reports submitted as far back as 2017 and was due to a mistake in the definition of a "unit operating day" that was being applied to the data. The definition being used was one that had previously been present in the permit and that excluded days where a boiler was not operated for the full 24-hour day. In contrast, the current definition in the permit includes days where the boiler was operated less than 24 hours. The Permittee fixed the error in the Quarter 3 2021 report and resubmitted it, and the error was corrected for any future reports going forward.

2. Excess Emissions

a. Excess Emissions of SO₂ from Steam Boiler Unit 4 (Inspection ID #289172)

On September 9, 2017, SO₂ emissions for Steam Boiler Unit 4 as measured by CEMS exceeded the 3-hour rolling average emission standard of 0.8 lb/MMBtu of SO₂ for a duration of 3 hours. It was determined that the excess emission was caused by a malfunction wherein the lime reagent feed line to the spray tower absorber became plugged, causing a loss of lime flow to the absorber. The Department determined that the Permittee took all of the necessary steps to remedy the malfunction and prevent the malfunction from recurrence.

b. Excess Emissions of CO from Steam Boiler Unit 4 (Inspection ID #306655)

On July 20, 2018, CO emissions from Steam Boiler Unit 4 as measured by CEMS exceeded the CO limit applicable during period of startup and shutdown of 400 pounds per hour for a duration of 1 hour during startup. The Permittee discovered the exceedance on July 26, 2018. A formal enforcement action was opened as a result of this excess emission (See Section IV.D below regarding Case No. 177380).

D. Case No. 177380

A Notice of Opportunity to Correct Deficiencies (NOC) was issued to APS on August 8, 2018 based on an occurrence of excess emissions of CO from Steam Boiler Unit 4 that occurred on July 20, 2018 (See Section IV.C.2.b above regarding Inspection ID: 306655). The violations and requested corrective actions were as follows:

1. On July 20, 2018, CO emissions from Steam Boiler Unit 4 as measured by CEMS exceeded the CO limit applicable during period of startup and shutdown of 400 pounds per hour for a duration of 1 hour during startup. To establish compliance, the NOC requested that the Permittee submit hourly CO emissions data for Steam Boiler Unit 4 for July 20, 2018 through August 10, 2018 within 7 calendar days of receiving the NOC letter. The Permittee's response was received on August 15, 2018, and the NOC was closed out on August 17, 2018.
2. The Permittee discovered the exceedance on July 26, 2018, six days after the exceedance occurred. To establish compliance, the NOC requested that the Permittee submit within 14 calendar days of receiving the NOC letter an explanation as to why it took six days for the Permittee to discover the exceedance.

The Permittee's deadlines to achieve compliance were August 17 and August 24, 2018. The Permittee submitted the required information on August 15, 2018, and an NOC closure letter was sent to the Permittee on August 17, 2018.

E. Performance Testing

Table 4 contains a summary in chronological order of the performance testing that was conducted during the permit term to demonstrate compliance with applicable emission limitations.

Table 4: Performance Test Results

Emission Unit	Pollutant	Date of Test	Results of Performance Test
Unit 4	PM, PM (MATS), Opacity, NO _x , SO ₂ , CO	5/25-5/26/2017	Pass
Unit 3	PM, PM (MATS), Opacity, NO _x , SO ₂ , CO	5/31/2017	Pass
Unit 1	PM, PM (MATS), Opacity, NO _x , SO ₂ , CO	6/2/2017	Pass
Unit 3	PM (MATS)	8/29/2017	Pass
Unit 1	PM (MATS)	8/30/2017	Pass
Unit 4	PM (MATS)	9/19/2017	Pass
Unit 1	PM (MATS)	11/14/2017	Pass
Unit 4	PM (MATS)	11/15/2017	Pass
Unit 3	PM (MATS)	11/16/2017	Pass
Unit 4	PM (MATS)	2/2/2018	Pass
Unit 3	PM (MATS)	2/13/2018	Pass
Unit 1	PM (MATS)	2/14/2018	Pass

Emission Unit	Pollutant	Date of Test	Results of Performance Test
Unit 4	PM, PM (MATS)	6/19-6/20/2018	Pass
Unit 1	PM, PM MATS	6/20-6/21/2018	Pass
Unit 3	PM, PM (MATS)	6/21-6/22/2018	Pass
Unit 1	PM (MATS)	8/14-8/16/2018	Pass
Unit 3	PM (MATS)	8/14-8/16/2018	Pass
Unit 4	PM (MATS)	8/14-8/16/2018	Pass
Unit 1	PM (MATS)	10/9-10/11/2018	Pass
Unit 3	PM (MATS)	10/9-10/11/2018	Pass
Unit 4	PM (MATS)	10/9-10/11/2018	Pass
Unit 1	PM, Opacity, NO _x , SO ₂ , CO	6/4-6/17/2019	Pass
Unit 3	PM, Opacity, NO _x , SO ₂ , CO	6/4-6/17/2019	Pass
Unit 4	PM, Opacity, NO _x , SO ₂ , CO	6/4-6/17/2019	Pass
Unit 1	PM, Opacity, NO _x , SO ₂ , CO	6/9-6/18/2020	Pass
Unit 3	PM, Opacity, NO _x , SO ₂ , CO	6/9-6/18/2020	Pass
Unit 4	PM, Opacity, NO _x , SO ₂ , CO	6/9-6/18/2020	Pass
Unit 1	PM, Opacity, NO _x , SO ₂ , CO	6/8-6/13/2021	Pass
Unit 3	PM, Opacity, NO _x , SO ₂ , CO	6/8-6/13/2021	Pass

V. EMISSIONS

A. Emission Calculations

The potential-to-emit (PTE) for Cholla Generating Station was calculated using emissions factors from the United States Environmental Protection Agency's AP-42: Fifth Edition Compilation of Emissions Factors, Volume 1: Stationary Point and Area Sources ("AP-42"), permitted limits, and additional supplementary documents discussed below. With the exception of emissions from the sorbent bin venting and the Administrative Building Natural Gas Emergency Generator, total particulate matter (PM), PM₁₀, and PM_{2.5} emissions were assumed to be equal for all emission sources. In the paragraphs below, all particulate matter species are collectively referred to as PM.

1. EGUs

Expected pollutants from the stacks of the EGUs include PM, NO_x, SO₂, CO, VOCs, sulfuric acid (H₂SO₄), HAPs including hydrochloric acid (HCl),

hydrofluoric acid (HF), lead (Pb), and mercury (Hg), and greenhouse gases (GHGs). Emission factors for PM, NO_x, SO₂, CO, and Hg were set equal to the most stringent applicable limits in the permit for the EGUs. The emission factor for H₂SO₄ was derived from a study by Southern Company Generation and Energy Marketing¹. Emission factors for VOCs and HAPs were derived from either AP-42 Table 1.1-14, an EPA study^{2,3}, or a study from the Electric Power Research Institute (EPRI)⁴. Emission factors from AP-42 were on a pound of pollutant emitted per ton of coal burned basis. They were converted into a pound of pollutant emitted per heat input basis by using a conversion factor of 14,436,126.39 MMBtu/year heat input per 664,618.435 tons of coal burned/year. The annual heat input and coal usage values were derived from 2020 data for the facility. To calculate potential annual emissions, emission factors were multiplied by the maximum boiler heat input (1,270 MMBtu/hr for Unit 1 and 2,929 MMBtu/hr for Unit 3) and by the annual operating hours, which were assumed to be 8,760 hours per year. GHG emissions were derived from 40 CFR Part 98 Subpart A Table A-1 and Subpart C Tables C-1 and C-2.

2. Emergency Internal Combustion Engines

Potential emissions for the five emergency internal combustion engines were estimated by multiplying emission factors for each pollutant of concern by the power rating of the engine and by 500 hours per year, which is the maximum expected hours of operation for an emergency engine. Emission factors for the Unit 2 Emergency Diesel Generator and Unit 3 Emergency Diesel Generator, each rated at 750 kW (1006 hp), were taken from AP-42 Section 3.4 for stationary diesel-fired engines rated greater than 600 hp. PM, NO_x, CO, SO₂, and VOC emission factors were from AP-42 Table 3.4.1, and HAPs emission factors were taken from AP-42 Tables 3.4-3 and 3.4-4. The NO_x emission factor is for uncontrolled emissions, and the emission factor for VOCs was estimated as the emission factor for TOC. The SO₂ emission factor is an equation requiring the sulfur content of the fuel, which was assumed to be 0.9% to be consistent with the limit in the permit.

For the two Emergency Diesel Fire Pump Engines, which are rated at 150 hp each, emissions factors for PM, CO, NO_x, SO₂, and VOCs were taken from AP-42 Table 3.3-1, and HAPs emission factors were from AP-42 Table 3.3-2. The emission factor for VOCs was estimated to be equal to the emission factor for total organic carbon (TOC). Emissions factors for the Administrative Building Natural Gas Emergency Generator, which is rated at 100 kW (134 hp), for PM, CO, NO_x, SO₂,

¹ Southern Company Generation and Energy Marketing. "An Updated Method for Estimating Total Sulfuric Acid Emissions from Stationary Power Plants". March 2003.

² United States Environmental Protection Agency. "Study of Hazardous Air Pollutant Emissions from Electric Utility Steam Generating Units -- Final Report to Congress". (February 1998, EPA-453/R-98-004a) <https://www.epa.gov/sites/default/files/2015-11/documents/eurtc1.pdf>.

³ United States Environmental Protection Agency. "Study of Hazardous Air Pollutant Emissions from Electric Utility Steam Generating Units -- Final Report to Congress. Volume 2. Appendices". (February 1998, EPA-453/R-98-004b) <https://www.epa.gov/sites/default/files/2015-11/documents/eurtc2.pdf>.

⁴ EPRI. "Emission Factors Handbook: Guidelines for Estimating Trace Substance Emissions from Fossil-Fuel-Fired Steam Electric Power Plants". 29 April 2014. <https://www.epri.com/research/products/000000003002003848>.

VOCs, and HAPs were taken from AP-42 Table 3.3-2 for 4-Stroke Lean-Burn Engines. The NO_x and CO emission factors are for when the engine is under load conditions of 90% to 105%, and the PM₁₀ and PM_{2.5} emission factors were estimated by adding the emission factor for condensable PM to the emission factor for either filterable PM₁₀ or filterable PM_{2.5}. GHG emissions from all engines were derived from 40 CFR Part 98 Subpart A Table A-1 and Subpart C Tables C-1 and C-2.

3. Cooling Tower 3

Pollutants of concern for Cooling Tower 3 are particulate matter and chloroform, which is a federally-listed hazardous air pollutant (HAP). Particulate matter emissions were calculated based on the water process flow rate through the tower, the operation hours (assumed to be 8,760 hours per year), a TDS concentration of 13,000 ppm, and a drift rate of 0.0009%. Chloroform emissions were also estimated using an emission factor of 20 kilogram-second/cubic meter-year, which was taken from a document prepared for the State of California State Air Resources Board (CARB)⁵, and multiplied by the water process flow rate through the tower and the annual operation hours (assumed to be 8,760 hours per year).

4. Materials Handling

The pollutant of concern for the materials handling systems is particulate matter. The materials handling systems include the coal preparation plant, limestone handling and slaking, and fly ash handling. Pollution controls include water spray systems, baghouses, and a wet scrubber. Fugitive emission factors for loading and unloading activities, conveyor belts, and storage bins were estimated using Equation 1 from AP-42 Section 13.2.4. For Equation 1, an annual average wind speed of 8.4 miles per hour was assumed for the coal handling and limestone handling activities, and 1 mile per hour for the fly ash handling activities because such activities occur inside the fly ash silo. The assumed moisture contents were 18% for coal handling based on recent coal samples at the facility, and 0.7% and 27% for limestone handling and fly ash handling activities, respectively, based on AP-42 Table 13.2.4.1. To calculate potential annual emissions, emission factors were multiplied by the maximum annual design throughput of the equipment multiplied by 1 minus the assumed efficiency of the control device or method (e.g. Annual PM₁₀ emissions = 100 tpy x (1-0.99) for a control device with 99% removal efficiency). For coal handling activities, the annual throughput was determined by multiplying the hourly design throughput of the equipment by the annual operating hours, which were assumed to be 8,760 hours per year.

5. Sorbent Bin Venting

⁵ Table 8.6-2: Emission Factor for Volatile Organic Compounds from "Emissions Characteristics of Cooling Towers. Using Reclaimed Wastewater in California", Science Applications, Inc., prepared for California State Air Resources Board, August 1981. https://ww3.arb.ca.gov/research/single-project.php?row_id=46215

The pollutant of concern for venting from the sorbent bins is particulate matter. Emissions from the sorbent bin vents were estimated using values of 0.005 grains of PM₁₀/dscf and 0.002 grains PM_{2.5}/dscf for the PAC sorbent based on guarantees from the vendor. To calculate annual emissions, these values were multiplied by the sorbent bin vent flowrate of 1000 scfm and by the annual operating hours, which were assumed to be 8,760 hours per year.

6. Coal Pile Wind Erosion

The particulate matter emission factor for wind erosion of the coal pile was estimated using Equation 9 in Section 4.1.3. “Wind Emissions from Continuously Active Piles” from the EPA document entitled *Control of Open Fugitive Dust Sources*, (EPA-450/3-88-008). Variables in the equation include the silt content of the storage pile, the average number of days with at least 0.01 inches of precipitation, and the percentage of time with unobstructed wind speed greater than 12 mph at the mean pile height. The silt content was assumed to be 2.20%, which was taken from AP-42 Table 13.2.4-1, and the number of days with at least 0.01 inches of precipitation was assumed to be 0. The Permittee provided daily average wind speed data from Weather Underground for Holbrook, AZ for the year 2020, which showed that the average wind speed was above 12 mph for 11% of the days. For the purposes of the emission calculations, the percentage of time with unobstructed wind speed above 12 mph was assumed to be 20%. To estimate annual fugitive emissions of particulate matter, the calculated emission factor was multiplied by the surface area of the coal pile.

7. Bulldozing

The particulate matter emission factor for bulldozing activities was taken from AP-42 Table 11.9-1 for Western Surface Coal Mining. The equation for the emission factor is based on the silt content of the material (assumed to be 2.20% based on AP-42 Table 13.2.4-1), and a moisture content of 18% based on recent coal samples at the facility. Annual emissions were estimated by multiplying the hourly emission factor by the total annual operating hours for two bulldozers, which was assumed to be 8,760 hours per year per bulldozer (or 17,520 hours per year total).

B. Summary of PTE

The facility has a potential-to-emit (PTE) more than major source thresholds for the following pollutants: particulate matter with an aerodynamic diameter less than 10 µm (PM₁₀), particulate matter with an aerodynamic diameter less than 2.5 µm (PM_{2.5}), nitrogen oxides (NO_x), carbon monoxide (CO), and sulfur dioxide (SO₂). Because the facility is considered a categorical source, both fugitive and non-fugitive emissions are counted towards the facility’s PTE. The facility’s PTE is provided in Table 5 below and includes the changes in emissions from the previous renewal permit #65054. There are no modifications at the facility associated with this permit renewal. Any increases in the potential-to-emit associated with this renewal are due to the decommissioning of equipment and changes in calculation methodology rather than modifications at the facility. Therefore, new source review (NSR) was not triggered by the changes in emissions for this

renewal. The following changes to the calculations led to the most significant changes in total emissions:

1. The permanent shutdown of Unit 4 led to the following decreases in emissions: 560.82 tpy of PM₁₀, 7477.54 tpy of NO_x, 2,804.08 tpy of SO₂, 531.08 tpy of CO, 2.86 tpy of H₂SO₄, 11.69 tpy of combined HAPs, and 2.18E+07 tpy CO₂e of GHGs.
2. Removal of Cooling Tower 4, which serviced Unit 4, led to a decrease in PM₁₀ emissions of 37.45 tpy.
3. The incorporation of PM₁₀ and NO_x BART permits limits and CO BACT permit limits into the emission calculations for Units 1 and 3 have led to the following changes: (1) Decrease in PM₁₀ emissions of 275.87 tpy, (2) Decrease in NO_x emissions of 3,310.49 tpy, and (3) Increase in CO emissions of 2,242.12 tpy.
4. PM_{2.5} emissions were previously only calculated for Unit 1. For this renewal, PM_{2.5} emissions were estimated for all sources of particulate matter emissions by setting PM_{2.5} equal to PM₁₀ emissions. This led to an increase in calculated PM_{2.5} emissions of 248.42 tpy.
5. The method in which GHGs were calculated for previous permit renewals could not be determined. Therefore, a new method was developed wherein the emission factors were derived from 40 CFR Part 98 Subpart A Table A-1 and Subpart C Tables C-1 and C-2. This update in calculation method led to a decrease in GHGs of 1.75E+07 tpy CO₂e for Units 1 and 3 combined. The decrease in GHGs from the shutdown of Unit 4 is given above in Section V.B.1.

Table 5: Potential to Emit (tpy)

Pollutant	Emissions from Permit #65054	Change in Emissions	Emissions
NO _x	14,834.71	-10,773.20	4061.51
PM ₁₀	1249.64	-917.74	331.90
PM _{2.5}	53	+278.67	331.67
CO	1047.71	+1,714.37	2762.08
SO ₂	5,562.82	-2,800.26	2762.56
VOC	2.76	+2.73	5.49
H ₂ SO ₄	6.44	-5.29	1.15
Pb*	--	--	0.03
HCl	5.60	-5.10	0.50
Chloroform	2.34	-2.15	0.20

HF (Single greatest HAP)	18.43	-14.82	3.62
HAPs (including Pb, HCl, Chloroform, and HF)	23.74	-13.92	9.82
GHG (CO ₂ e)	43,266,370	-39,301,366	3,965,004

*Note: Lead emissions were not calculated for Permit #65054.

VI. APPLICABLE REGULATIONS

Table 6 identifies applicable regulations and verification as to why that standard applies. The table also contains a discussion of any regulations the emission unit is exempt from. In addition to the regulations in Table 6, Units 1 and 3 are also subject to requirements of the Arizona Regional Haze State Implementation Plan (SIP). Federal approval of these requirements can be found in the Federal Register at 82 FR 15139. These requirements were incorporated into the permit as Attachment "F" in a significant permit revision (SPR #61713), which was issued on October 16, 2015, and then removed from Attachment "F" and incorporated into Attachment "B" of the permit in the previous permit renewal (Permit #65054), which was issued on May 26, 2017. Lastly, the facility is subject to Acid Rain requirements under Title IV of the Clean Air Act. These requirements are included in the permit as Attachment "D".

Table 6: Applicable Regulations

Unit & year	Control Device	Rule	Discussion
Steam Boiler Unit 1 (1961)	Fabric filter, Two tray absorber with lime reagent, and Low NO _x burners	<p>A.A.C. R18-2-702 and -703</p> <p>NESHAP 40 CFR Part 63, Subpart UUUUU</p> <p>40 CFR Part 64 (CAM)</p>	<p>Standards of Performance for Existing Fossil-Fuel Fired Steam Generators and General Fuel-Burning Equipment – These standards are applicable to fossil-fuel fired steam generators that were constructed prior to the NSPS Subpart D applicability date of 8/17/1971.</p> <p>National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units – Unit 1 was constructed prior to 5/3/2011 and therefore is an existing EGU under Subpart UUUUU. There are applicable standards for filterable PM, SO₂, and mercury (Hg). Upon conversion to natural gas, Subpart UUUUU will no longer apply to Unit 1 (40 CFR 63.10000(n)).</p> <p>Compliance Assurance Monitoring (CAM) Requirement (Discussion in Section IX).</p>

Unit & year	Control Device	Rule	Discussion
Steam Boiler Unit 3 (1975)	Fabric filter, SO ₂ spray tower absorber, and Low NO _x burners	<p>NSPS 40 CFR Part 60 Subpart D</p> <p>A.A.C. R18-2-903</p> <p>NESHAP 40 CFR Part 63 Subpart UUUUU</p> <p>40 CFR Part 64 (CAM)</p>	<p>Standards of Performance for Fossil-Fuel-Fired Steam Generators – These standards are applicable to units that commenced construction after 8/17/1971 and are greater than 73 MW capacity. There are applicable standards for PM, SO₂, NO_x and opacity. Unit 3 is also subject to some monitoring and reporting requirements under NSPS Subpart Da as a result of a prior Consent Order between ADEQ and APS that was signed in 1991.</p> <p>Standards of Performance for Fossil-fuel Fired Steam Generators</p> <p>National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units – Unit 3 was constructed prior to 5/3/2011 and therefore is an existing EGU under Subpart UUUUU. There are applicable standards for filterable PM, SO₂, and Hg. Upon conversion to natural gas, Subpart UUUUU will no longer apply to Unit 3 (40 CFR 63.10000(n)).</p> <p>Compliance Assurance Monitoring (CAM) Requirement (Discussion in Section IX).</p>
Sorbent Injection System (2016)	None	A.A.C. R18-2-702 and -730	These standards are applicable to existing unclassified sources.

Unit & year	Control Device	Rule	Discussion
Emergency Internal Combustion Engines – Unit 2 Emergency Diesel Generator (1974), Unit 3 Emergency Diesel Generator (1975), Emergency Diesel Fire Pump Engines (1983), Administration Building Natural Gas Emergency Generator (2004)	None	A.A.C. R18-2-719 NESHAP 40 CFR Part 63 Subpart ZZZZ	Standards of Performance for Existing Stationary Rotating Machinery – These standards are applicable to all of the emergency internal combustion engines because they were all manufactured prior to the applicability years in NSPS Subpart IIII and JJJJ of 2006 and 2009, respectively. National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines – All of the emergency internal combustion engines are “existing” facilities under Subpart ZZZZ.
Cooling Tower 3 (1975)	None	A.A.C. R18-2-702 and -730	These standards are applicable to existing unclassified sources.
Coal Preparation Plant including the Coal Handling System – New Track, Coal Handling System – Old Track, Coal Reclaim System, and Coal Silo Feed System (Various years)	Dust collectors or wetting systems with chemical suppressant	A.A.C. R18-2-702 and -716 NSPS 40 CFR Part 60 Subpart Y	Standards of Performance for Existing Coal Preparation Plants – These standards are applicable to equipment that are part of the Coal Preparation Plant and that were constructed prior to the NSPS Subpart applicability date of October 27, 1974. Standards of Performance for Coal Preparation and Processing Plants – These standards are applicable to equipment that are part of the Coal Preparation Plant and that were constructed after the NSPS Subpart applicability date of October 27, 1974.
Fly Ash Handling	Baghouse	A.A.C. R18-2-702 and -730	These standards are applicable to existing unclassified sources.
Lime Handling & Slaking	Wet Scrubber and Baghouse	A.A.C. R18-2-702 and -730	These standards are applicable to existing unclassified sources.
Fugitive dust sources	Water Trucks, Dust Suppressants	A.A.C. R18-2 Article 6 A.A.C. R18-2-702	These standards are applicable to all fugitive dust sources at the facility.
Abrasive Blasting	Wet blasting; Dust collecting equipment; Other approved methods	A.A.C. R18-2-702 and -726	These standards are applicable to any abrasive blasting operation.

Unit & year	Control Device	Rule	Discussion
Spray Painting	Enclosures	A.A.C. R18-2-702 and -727	These standards are applicable to any spray painting operation.
Demolition/renovation Operations	N/A	A.A.C. R18-2-1101.A.8	This standard is applicable to any asbestos-related demolition or renovation operations.

VII. PREVIOUS PERMIT REVISIONS AND CONDITIONS

A. Previous Permit Revisions

Table provides a description of the permit revisions made to Permit No. 65054 during the previous permit term.

Table 7: Permit Revisions to Permit No. 65054

Permit Revision No.	Issuance Date	Permit Revision Type	Brief Description
66377	7/18/2017	Minor Permit Revision	Update of the date of submission of reports through CEDRI/CDX from April 16, 2017 to July 1, 2018 in accordance with rule revision of Mercury and Air Toxics Standards (MATS) 40 CFR 63 Subpart UUUUU (82 FR 16736).
68232	10/6/2017	Administrative Amendment	Addition of the carbon monoxide emission limit and performance testing requirement for Unit 4, Condition Number IV, Attachment "B" of the renewal permit #65054. These were inadvertently left out of renewal permit #65054.
76781	5/17/2019	Administrative Amendment	Update of the date of submission of reports through CEDRI/CDX from July 1, 2018 to July 1, 2020 in accordance with rule revision of MATS 40 CFR 63 Subpart UUUUU (83 FR 30879).
86345	1/14/2021	Minor Permit Revision	Update of recordkeeping and reporting requirements in accordance with rule revision of MATS 40 CFR 63 Subpart UUUUU (85 FR 55744).

B. Changes to Current Renewal

Table addresses the changes made to the sections and conditions from Permit No. 65054 as revised by Minor Permit Revision No. 86345. If a condition is not listed, then no substantive changes were made to that condition. Items listed in the "Section No." column are numbered consistent with this renewal permit. If a condition was renumbered, the old numbering was noted in the "Comments" column. In addition to the changes listed below,

citations for permit conditions were added and updated as needed, and permit shield conditions were updated accordingly.

Table 8: Previous Permit Conditions

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "A"		X		General Provisions: Revised to represent the most recent template language
Att. "B" Section I: Facility-Wide Requirements				
Att. "B" Section I		X		Section renamed from "General Requirements".
Att. "B" Conditions I.A.1-3		X		<i>Definitions:</i> References to Unit 4 removed. Definition of "malfunction" updated to match rule language.
Att. "B" Condition I.A.4		X		<i>Definitions:</i> The phrase "excluding startup periods or shutdown periods" was removed from the definition of "boiler-operating day" in order to match the language in SPR #61714 and 40 CFR 60.41.
Att. "B" Conditions I.C and I.D		X		References to Unit 4 removed.
Att. "B" Condition I.E			X	Condition containing requirements from 40 CFR 60.11(a) and 60.8(b) was deleted because it was deemed redundant. Condition XXII of Attachment "A" already requires compliance with applicable requirements in 40 CFR Part 60 Subpart A.
Att. "B" Condition I.E	X			<i>Opacity:</i> A new subsection entitled "Opacity" containing all general opacity requirements was created.
Att. "B" Condition I.E.1 and 2		X		<i>Opacity:</i> Renumbered from Conditions I.F and I.I, respectively, of Attachment "B" in previous permit.
Att. "B" Condition I.E.3 and I.E.3.a-f		X		<i>Opacity:</i> Renumbered from Conditions I.K and I.K.1-6, respectively, of Attachment "B" in previous permit.
Att. "B" Condition I.E.4		X		<i>Opacity:</i> Renumbered from Conditions I.H of Attachment "B" in previous permit.
Att. "B" Condition I.F		X		Renumbered from Condition I.G of Attachment "B" in previous permit.
Att. "B" Condition I.G, I.G.1 and I.G.2		X		<i>Reporting Requirements:</i> Renumbered from Condition I.O, I.J, and I.O.1 of Attachment "B" in previous permit.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Condition I.G.3	X			<i>Reporting Requirements:</i> New condition specifying which specific conditions that a deviation from would need to be reported within 2 working days. Deviations from all other conditions are now required to be reported concurrently with the submission of the semi-annual compliance certification (Condition XI.B of Attachment "A").
Att. "B" Condition I.L			X	Condition containing requirements from A.A.C. R18-2-304.G deleted because these requirements are present in Section XIV.B of Attachment "A".
Att. "B" Conditions I.M-N and I.P			X	<i>Equipment Operations and Permit Shield:</i> These conditions and their associated permit shield were deleted because they were FIP conditions that were withdrawn by EPA and replaced by ADEQ SIP conditions, which are now located throughout Sections II and III of Attachment "B".
Att. "B" Section II.C: Steam Boiler Unit 1 – General Recordkeeping and Reporting Requirements				
Att. "B" Section II.C	X			New section added containing all general recordkeeping and reporting SIP requirements that apply to Unit 1. These conditions were deleted from where they were present elsewhere in Section II.
Att. "B" Condition II.C.3.b-c	X			Added recordkeeping and reporting requirements for demonstrating compliance with the 20% annual capacity factor limit that goes into effect upon the Unit's conversion to natural gas.
Att. "B" Section II.D: Steam Boiler Unit 1 – Particulate Matter (PM), Particulate Matter less than 10 microns (PM₁₀), and Opacity				
Att. "B" Section II.D		X		Renumbered from Section II.C in previous permit.
Att. "B" Section II.D.4	X			<i>Recordkeeping Requirements:</i> New section added containing SIP recordkeeping requirement that was left out of Renewal Permit #65054 by mistake.
Att. "B" Sections II.D.5-8		X		<i>Reporting Requirements, Performance Testing Requirements, Compliance Assurance Monitoring for Particulate Matter, Permit Shield:</i> Renumbered from Sections II.C.4-7 of Attachment "B" in previous permit.
Att. "B" Conditions II.C.5.a-c			X	<i>Reporting Requirements:</i> These conditions in the previous permit were deleted and moved into new Section II.C of Attachment "B".

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Conditions II.D.5.a, b, and c		X		<i>Reporting Requirements:</i> Renumbered from Conditions II.C.4.d, e, and g of Attachment "B" in previous permit.
Att. "B" Condition II.D.5.a(4)	X			<i>Reporting Requirements:</i> Relocated from Condition II.C.4.f of Attachment "B" of previous permit.
Att. "B" Condition II.C.4.f			X	<i>Reporting Requirements:</i> Deleted and relocated to Condition II.D.5.a(4).
Att. "B" Section II.D.6		X		<i>Performance Testing Requirements:</i> Renumbered from Section II.C.5 of Attachment "B" in previous permit.
Att. "B" Section II.E: Steam Boiler Unit 1 – Sulfur Dioxide				
Att. "B" Section II.E		X		Renumbered from Section II.D of Attachment "B" in previous permit.
Att. "B" Condition II.E.3.c and II.E.4		X		<i>Monitoring Requirement and Compliance Requirements:</i> Corrected the emission standards to which these conditions referred.
Att. "B" Section II.E.5	X			<i>Recordkeeping Requirements:</i> New section added containing SIP recordkeeping requirements that were left out of Renewal Permit #65054 by mistake.
Att. "B" Sections II.E.6-8		X		<i>Reporting Requirements, Performance Testing Requirements, Permit Shield:</i> Renumbered from Sections II.D.5-7 of Attachment "B" in previous permit.
Att. "B" Conditions II.D.5.a-c			X	<i>Reporting Requirements:</i> These conditions in the previous permit were deleted and moved into new Section II.C of Attachment "B".
Att. "B" Conditions II.E.6.a-f		X		<i>Reporting Requirements:</i> Renumbered from Conditions II.D.5.d-h and j of Attachment "B" in previous permit.
Att. "B" Condition II.E.6.d		X		<i>Reporting Requirements:</i> Added clarifying statement that submission of quarterly SO ₂ CEMS reports is required until cessation of coal burning in Unit 1. Upon cessation of coal burning, no SO ₂ emission standards from A.A.C. R18-2-703 will be applicable to Unit 1.
Att. "B" Condition II.D.5.g(3)			X	<i>Reporting Requirements:</i> Condition requiring reporting of SO ₂ removal efficiencies in the quarterly reports was deleted at the request of the Permittee because the same information is required to be reported in the semi-annual reports.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Condition II.E.6.d(3)		X		<i>Reporting Requirements:</i> Renumbered from Condition II.D.5.g(4) of Attachment "B" in previous permit.
Att. "B" Condition II.E.6.d(4)	X			<i>Reporting Requirements:</i> Relocated from Condition II.D.5.i of Attachment "B" of previous permit.
Att. "B" Condition II.D.5.i			X	<i>Reporting Requirements:</i> Deleted and relocated to Condition II.E.6.d(4).
Att. "B" Condition II.E.7.a		X		<i>Performance Testing Requirements:</i> Added clarifying statement that annual performance testing for SO ₂ is required until cessation of coal burning in Unit 1. Upon cessation of coal burning, there will be no SO ₂ emission standard from A.A.C. R18-2-703 applicable to Unit 1.
Att. "B" Section II.F: Steam Boiler Unit 1 – Nitrogen Oxides (NO_x)				
Att. "B" Section II.F		X		Renumbered from Section II.E of Attachment "B" in previous permit.
Att. "B" Condition II.F.1.a		X		<i>Emissions Limitations/Standards:</i> Condition II.E.1.a(1) of Attachment "B" of previous permit was streamlined into Condition II.E.1.a of previous permit to make Condition II.F.1.a of this permit.
Att. "B" Condition II.E.1.a(1)			X	<i>Emissions Limitations/Standards:</i> Condition deleted because it was streamlined into Condition II.E.1.a of previous permit to make Condition II.F.1.a of this permit.
Att. "B" Condition II.F.1.b(1)		X		<i>Emission Limitations/Standards:</i> Corrected that the standard is to be calculated as NO ₂ rather than NO _x .
Att. "B" Condition II.F.3.d		X		<i>Monitoring Requirements:</i> Added missing language from the SIP.
Att. "B" Condition II.F.4		X		<i>Compliance Requirements:</i> Specified that these compliance requirements apply to the NO _x standards from the SIP.
Att. "B" Section II.F.5	X			<i>Recordkeeping Requirements:</i> New section added containing SIP recordkeeping requirements that were left out of Renewal Permit #65054 by mistake.
Att. "B" Sections II.F.6-8		X		<i>Reporting Requirements, Performance Testing, Permit Shield:</i> Renumbered from Sections II.E.5-7 of Attachment "B" in previous permit.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Conditions II.E.5.a-c			X	<i>Reporting Requirements:</i> These conditions in the previous permit were deleted and moved into new Section II.C of Attachment "B".
Att. "B" Conditions II.F.6.a-c		X		<i>Reporting Requirements:</i> Renumbered from Conditions II.E.5.d-f of Attachment "B" in previous permit.
Att. "B" Condition II.F.7	X			<i>Performance Testing Requirements:</i> Added an annual performance testing requirement for NO _x for Unit 1 to demonstrate compliance with the NO _x limit in A.A.C. R18-2-703 that is applicable upon conversion of the Unit to natural gas operation.
Att. "B" Section II.G: Steam Boiler Unit 1 – Carbon Monoxide				
Att. "B" Section II.G		X		Renumbered from Section II.F of Attachment "B" in previous permit.
Att. "B" Section III: Steam Boiler Unit 3				
Att. "B" Section III		X		Removed Unit 4 from the Section title.
Att. "B" Section III.A: Steam Boiler Unit 3 – Applicability				
Att. "B" Section III.A		X		Removed Unit 4 from applicability statement.
Att. "B" Section III.B: Steam Boiler Unit 3 – Fuel Limitation				
Att. "B" Section III.B.1-3		X		Condition III.B.1 of previous permit, which was previously a heading called "Unit 3", was deleted. Renumbered from Conditions III.B.1.a-c of Attachment "B" of previous permit were renumbered as Conditions III.B.1-3.
Att. "B" Section III.B.2			X	<i>Unit 4:</i> Removed this section, which contained Unit 4 fuel requirements
Att. "B" Section III.C: Steam Boiler Unit 3 – Operation Procedures				
Att. "B" Section III.C.1-3		X		Removed references to Unit 4.
Att. "B" Section III.D: Steam Boiler Unit 3 – General Recordkeeping and Reporting Requirements				
Att. "B" Section III.D	X			New section added containing all general recordkeeping and reporting SIP requirements that apply to Unit 3. These conditions were deleted from where they were present elsewhere in Section II of the previous permit, and edited to remove references to Unit 4.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Condition III.D.3.b-c	X			Added recordkeeping and reporting requirements for demonstrating compliance with the 20% annual capacity factor limit that goes into effect upon the Unit's conversion to natural gas.
Att. "B" Section III.E: Steam Boiler Unit 3 – Particulate Matter (PM), Particulate Matter less than 10 microns (PM₁₀), and Opacity				
Att. "B" Section III.E		X		Renumbered from Section III.C of Attachment "B" in previous permit.
Att. "B" Section III.E.1-2		X		<i>Emission Limitations/Standards; Air Pollution Control Requirements:</i> References to Unit 4 removed.
Att. "B" Condition III.E.3.b(2)(a) and (c)		X		<i>Continuous Monitoring:</i> Language edited to more closely match the rule language.
Att. "B" III.E.3.b(2)(e)		X		<i>Continuous Monitoring – Data Reduction Procedures:</i> Renumbered from Condition III.D.3.b(2)(e)(1) of previous permit.
Att. "B" III.E.3.b(2)(e)(2)			X	<i>Continuous Monitoring – Data Reduction Procedures:</i> Condition deleted because the rule does not apply to COMS.
Att. "B" Section III.E.4		X		<i>Recordkeeping and Reporting Requirements:</i> References to Unit 4 removed.
Att. "B" Conditions III.D.4.a-d			X	<i>Recordkeeping and Reporting Requirements:</i> These conditions in the previous permit were deleted and moved into new Section III.D of Attachment "B".
Att. "B" Conditions III.E.4.a-e		X		<i>Recordkeeping and Reporting Requirements:</i> Renumbered from Conditions III.D.4.e-i of Attachment "B" in previous permit.
Att. "B" Conditions III.D.4.d(1) and (5)			X	<i>Recordkeeping and Reporting Requirements:</i> These requirements were deleted because they are not relevant to the particulate matter section.
Att. "B" Conditions III.E.4.d(1)-(3)		X		<i>Recordkeeping and Reporting Requirements:</i> Renumbered from Conditions III.D.4.d(2)-(4) of Attachment "B" in previous permit.
Att. "B" Conditions III.E.4.f		X		<i>Recordkeeping and Reporting Requirements:</i> Renumbered from Conditions III.D.4.i(4) of Attachment "B" in previous permit.
Att. "B" Section III.E.5		X		<i>Performance Testing Requirements:</i> References to Unit 4 removed.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Conditions III.E.5.b(1)(a)-(c)	X			<i>Performance Testing Requirements:</i> Added conditions with performance testing requirements from 40 CFR 60.46(b)(2)(i)-(iii).
Att. "B" Condition III.D.5.b(4)			X	<i>Performance Testing Requirements:</i> Removed this condition, which contained performance testing requirements from the FIP that have been removed and replaced with requirements in the SIP.
Att. "B" Condition III.E.5.d		X		<i>Performance Testing Requirements:</i> Revised condition to specify the emission standard to which the requirement applies.
Att. "B" Section III.F: Steam Boiler Unit 3 – Sulfur Dioxide				
Att. "B" Section III.F		X		Renumbered from Section III.E of Attachment "B" in previous permit.
Att. "B" Section III.F.1-3		X		<i>Emission Limitations/Standards; Air Pollution Control Requirements; Monitoring Requirements:</i> References to Unit 4 removed.
Att. "B" Condition III.F.3.d	X			<i>Monitoring Requirements:</i> Added back into the permit the condition containing requirements from 40 CFR 60.49Da(e), which was deleted in previous Renewal Permit #65054.
Att. "B" Conditions III.F.3.e-i		X		<i>Monitoring Requirements:</i> Renumbered from Conditions III.E.3.d-h of Attachment "B" of previous permit.
Att. "B" Condition III.E.3.i			X	<i>Monitoring Requirements:</i> Removed this section, which contained requirements from the FIP that have been removed and replaced with requirements in the SIP.
Att. "B" Section III.F.4		X		<i>Recordkeeping and Reporting Requirements:</i> References to Unit 4 removed.
Att. "B" Condition III.F.4.d		X		<i>Recordkeeping and Reporting Requirements:</i> Added language that specifies that the quarterly reporting requirements from 40 CFR Part 60 for the Unit 3 SO ₂ CEMS are no longer applicable upon permanent cessation of coal burning in Unit 3, since at that time there will be no SO ₂ emission standard in 40 CFR Part 60 that's applicable to Unit 3.
Att. "B" Condition III.F.4.d(3)		X		<i>Recordkeeping and Reporting Requirements:</i> Moved this condition under quarterly reporting requirements in Section III.F.4.c. Renumbered from Condition III.E.4.e of Attachment "B" of previous permit.
Att. "B" Conditions III.F.4.e-g		X		<i>Recordkeeping and Reporting Requirements:</i> Renumbered from Conditions III.E.4.f-h of Attachment "B" of previous permit.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Conditions III.F.4.e(5)-(7) and III.F.4.h-i	X			<i>Recordkeeping and Reporting Requirements:</i> Added conditions containing SIP recordkeeping and reporting requirements that were left out of Renewal Permit #65054 in error.
Att. "B" Condition III.F.5.a		X		<i>Compliance Demonstration Requirements:</i> References to Unit 4 removed.
Att. "B" Condition III.F.5.b		X		<i>Compliance Demonstration Requirements:</i> Revised language to refer to the specific emission standards to which this condition applies.
Att. "B" Condition III.F.5.c(1)(a)-(g)		X		<i>Compliance Demonstration Requirements:</i> Moved "Step one" down a level to Condition III.F.1.c(1)(a) so that it aligns with steps two through five. Renumbered Conditions III.E.5.c(1)(a)-(f) in previous permit to be Conditions III.F.5.c(1)(b)-(g) in this permit.
Att. "B" Section III.F.6			X	<i>Performance Testing Requirements for Unit 4:</i> Section removed as Unit 4 is permanently shut down.
Att. "B" Section III.F.6		X		<i>Permit Shield:</i> Renumbered from Section III.E.7 of Attachment "B" in previous permit.
Att. "B" Section III.G: Steam Boiler Unit 3 – Nitrogen Oxides (NO_x)				
Att. "B" Section III.G		X		Renumbered from Section III.F of Attachment "B" in previous permit.
Att. "B" Section III.G.1-3		X		<i>Emission Limitations/Standards; Air Pollution Control Requirements; Monitoring Requirements:</i> References to Unit 4 removed.
Att. "B" Condition III.G.1.b(1)		X		<i>Emission Limitations/Standards:</i> Added clarifying language including that the standard is expressed as NO ₂ and based on a 3-hour rolling average.
Att. "B" Condition III.G.3.c		X		<i>Monitoring Requirements:</i> Revised language to refer to the specific emission standards to which this condition applies.
Att. "B" Condition III.G.3.e		X		<i>Monitoring Requirements:</i> Added missing language from the SIP.
Att. "B" Section III.G.4		X		<i>Recordkeeping and Reporting Requirements:</i> References to Unit 4 removed.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Condition III.F.4.d			X	<i>Recordkeeping and Reporting Requirements:</i> Condition requiring quarterly excess emission and monitoring system reporting for the Unit 3 NO _x CEMS under 40 CFR Part 60 was deleted because it is not applicable. It is not applicable because the Permittee was exempted from the requirement in 40 CFR 45(a) to install a NO _x CEMS on Unit 3 because Unit 3's emissions were less than 70-% of the applicable NO _x standard during initial performance testing (exemption in 40 CFR 60.45(b)(3)).
Att. "B" Conditions III.G.4.d		X		<i>Recordkeeping and Reporting Requirements:</i> Renumbered from Condition III.F.4.e in previous permit.
Att. "B" Conditions III.F.4.e(7)			X	<i>Recordkeeping and Reporting Requirements:</i> Deleted condition because it is not relevant to NO _x recordkeeping.
Att. "B" Conditions III.G.4.e-g	X			<i>Recordkeeping and Reporting Requirements:</i> Added conditions containing SIP recordkeeping and reporting requirements that were left out of Renewal Permit #65054 in error.
Att. "B" Section III.G.5		X		<i>Compliance Demonstration Requirements:</i> References to Unit 4 removed.
Att. "B" Condition III.G.5.a		X		<i>Compliance Demonstration Requirements:</i> Revised language to refer to the specific emission standards to which this condition applies.
Att. "B" Condition III.G.5.a(1)(a)		X		<i>Compliance Demonstration Requirements:</i> Renumbered text of Condition III.F.5.a(1) to Condition III.E.5.b(1)(a).
Att. "B" Conditions III.G.5.a(1)(a)(i)- (iii) and (b)	X			<i>Compliance Demonstration Requirements:</i> Added conditions with performance testing requirements from 40 CFR 60.46(b)(5)(i)-(iii) and 40 CFR 60.46(d)(5).
Att. "B" Section III.H: Steam Boiler Unit 3 – Carbon Monoxide				
Att. "B" Section III.H		X		Renumbered from Section III.G of Attachment "B" in previous permit. Removed references to Unit 4.
Att. "B" Section IV: Hazardous Air Pollutants – 40 CFR Part 63, Subpart UUUUU				
Att. "B" Section IV		X		Renamed section. Section title in previous permit was "Hazardous Air Pollutants".
Att. "B" Section IV.A: Hazardous Air Pollutants – 40 CFR Part 63, Subpart UUUUU - Applicability				

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Condition IV.A.1		X		Because of the addition of Condition IV.A.2, Condition IV.A.1 was renumbered from Condition IV.A of Attachment "B" in previous permit. Condition language was revised to state that the requirements of Section IV apply to Units 1 and 3, rather than the previous language, which more generally referred to the requirements of Subpart UUUUU as being applicable. References to Unit 4 were removed.
Att. "B" Condition IV.A.2	X			Condition added to state that Section IV no longer applies upon the date on which a unit is permanently converted to natural gas.
Att. "B" Section IV.B: Hazardous Air Pollutants – 40 CFR Part 63, Subpart UUUUU – General Requirements				
Att. "B" Condition IV.B.1		X		Reference to Unit 4 removed.
Att. "B" Condition IV.B.2.b(1)(a)(i)	X			<i>Requirements During Startup and Shutdowns:</i> Added condition that CMS be operated during startup.
Att. "B" Conditions IV.B.2.b(1)(a)(ii)- (vii)		X		<i>Requirements During Startup and Shutdowns:</i> Renumbered from Conditions IV.B.2.b(1)(a)(i)-(vi) of Attachment "B" in previous permit. References in (v) and (vii) were corrected.
Att. "B" Conditions IV.B.2.b(2)(f) and (i)		X		<i>Requirements During Startup and Shutdowns:</i> References in these conditions were corrected
Att. "B" Condition IV.B.2.b(4)(c)		X		<i>Requirements During Startup and Shutdowns:</i> Added language from the rule that specifies that Conditions IV.B.2.b(4)(c)(i)-(iv) do not apply if the EGU has LEE status for filterable PM.
Att. "B" Conditions IV.B.2.b(6)(a), (a)(i)-(iii)		X		<i>Requirements During Startup and Shutdowns:</i> Renumbered from Conditions IV.B.2.b(6), (6)(a)-(c) of Attachment "B" in previous permit.
Att. "B" Condition IV.B.2.b(6)(b)	X			<i>Requirements During Startup and Shutdowns:</i> Added condition with requirements from 40 CFR 63.10021(i).
Att. "B" Condition IV.B.3.b		X		<i>Steam Boiler Tune-ups</i> Reference to Unit 4 removed.
Att. "B" Section IV.C: Hazardous Air Pollutants – 40 CFR Part 63, Subpart UUUUU – Emission Limitations/Standards				

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Section IV.C.1	X			New section header created entitled "Emission Limitations/Standards from Table 2 to 40 CFR 63, Subpart UUUUU"
Att. "B" Conditions IV.C.1.a-d		X		<i>Emission Limitations/Standards from Table 2 to 40 CFR 63, Subpart UUUUU:</i> Condition IV.C.1.a-c were renumbered from Conditions IV.C.1-3 in the previous permit. Condition IV.C.1.a was corrected to read that the emission standard is for filterable PM rather than total PM. A permit shield condition was added as Condition IV.C.1.d
Att. "B" Section IV.C.2-3		X		<i>Emission Averaging:</i> Renumbered from Sections IV.C.4-5 of Attachment "B" in the previous permit.
Att. "B" Conditions IV.C.2.b, f, and g		X		<i>Emission Averaging:</i> Various clarifications were made and references were corrected throughout these conditions.
Att. "B" Condition IV.C.2.j(1)(a)		X		<i>Emission Averaging:</i> Language added from the rule for clarification.
Att. "B" Condition IV.C.3.c(2)(b)		X		<i>Low Emitting EGU (LEE):</i> Language added from the rule for clarification.
Att. "B" Condition IV.C.3.d		X		<i>Low Emitting EGU (LEE):</i> Language added from the rule to specify initial compliance for a boiler with non-LEE status for Hg should be demonstrated in accordance with Appendix A to 40 CFR Part 63, Subpart UUUUU.
Att. "B" Section IV.D: Hazardous Air Pollutants – 40 CFR Part 63, Subpart UUUUU – Compliance Demonstration				
Att. "B" Condition IV.D.1.d(1)		X		<i>Continuous Compliance:</i> Added sample size minimum requirement from Table 2 to 40 CFR Part 63, Subpart UUUUU.
Att. "B" Conditions IV.D.2.b(1) and (3)		X		<i>Continuous Emissions Monitoring System Requirements:</i> Revised language to more closely match the language in 40 CFR 63.10020(b) and (d).
Att. "B" Conditions IV.D.2.e(1)-(3)		X		<i>Continuous Emissions Monitoring System Requirements:</i> Renumbered the paragraph under Condition IV.D.2.e as IV.D.2.e(1). Renumbered Conditions IV.D.2.e(1)-(2) as (2)-(3).
Att. "B" Section IV.E: Hazardous Air Pollutants – 40 CFR Part 63, Subpart UUUUU – Notifications				

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Condition IV.E.3.g(2)(a)(iii)		X		Revised language to more closely match the language in 40 CFR 63.10030(e)(7)(iii)(A)(3).
Att. "B" Conditions IV.E.3.i-j		X		Renumbered the Condition IV.E.3.h(3)(f) as IV.E.3.i. Condition IV.E.3.i renumbered as j.
Att. "B" Section IV.F: Hazardous Air Pollutants – 40 CFR Part 63, Subpart UUUUU – Reporting Requirements				
Att. "B" Conditions IV.F.1.b-d			X	Conditions deleted because they are not relevant to the Permittee at this time.
Att. "B" Condition IV.F.1.b		X		Renumbered from Condition IV.F.1.e of Attachment "B" of previous permit.
Att. "B" Condition IV.F.6.a		X		Deleted language not relevant to the Permittee at this time.
Att. "B" Condition IV.F.6.b			X	Condition deleted because it is not relevant to the Permittee at this time.
Att. "B" Conditions IV.F.6.b-d		X		Renumbered from Conditions IV.F.6.c-e of Attachment "B" of previous permit.
Att. "B" Condition IV.F.6.d(4)			X	Condition deleted because it is not relevant to the Permittee at this time.
Att. "B" Conditions IV.F.6.d(4)-(11)		X		Renumbered from Conditions IV.F.6.e(5)-(12) of Attachment "B" of previous permit.
Att. "B" Conditions IV.F.10-11			X	Conditions deleted because they are not relevant to the Permittee at this time.
Att. "B" Conditions IV.F.10-12		X		Renumbered from Conditions IV.F.12-14 of Attachment "B" of previous permit.
Att. "B" Section IV.G: Hazardous Air Pollutants – 40 CFR Part 63, Subpart UUUUU – Recordkeeping Requirements				
Att. "B" Conditions IV.G.1.a and 2		X		Revised language for clarification.
Att. "B" Section V: Sorbent Injection System				
Att. "B" Sections V.A-B		X		<i>Applicability; Operation Requirements:</i> Removed references to Unit 4. Updated applicability section to reflect updates to the Equipment List in Attachment "C".

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Condition V.C.1.a		X		<i>Particulate Matter and Opacity – Emission Limitations and Standards:</i> Inserted "Particulate Matter" as a header for this condition. Changed the particulate matter equation to the one in A.A.C. R18-2-703A.1.a, which is applicable to processes rated at less than 30 tons per hour. Added the requirements of A.A.C. R18-2-730.B.
Att. "B" Section VI: Internal Combustion Engines				
Att. "B" Section VI.A		X		<i>Applicability:</i> Updated to include all internal combustion engines listed in the updated Equipment List in Attachment "C".
Att. "B" Condition VI.C.2		X		<i>Sulfur Dioxide – Monitoring, Recordkeeping, and Reporting Requirements</i> Revised to more closely match the language in A.A.C. R18-2-719.I. Added the option to comply with the recordkeeping requirement by maintaining records of the results of fuel sampling that are representative of the fuel currently in use.
Att. "B" Section VI.D: Internal Combustion Engines – Hazardous Air Pollutants				
Att. "B" Condition VI.D.1		X		<i>Applicability:</i> Updated to include all internal combustion engines listed in the updated Equipment List in Attachment "C".
Att. "B" Condition VI.D.2.a		X		<i>General Requirements – Fuel Requirements:</i> Revised to more closely match the language in 40 CFR 63.6604(b).
Att. "B" Section VI.D.2.b	X			<i>General Requirements – Operating Requirements:</i> Inserted a new section header entitle "Operating Requirements".
Att. "B" Condition VI.D.2.b(1)	X			<i>General Requirements – Operating Requirements:</i> Inserted a new condition containing the requirements of 40 CFR 63.6605(a).
Att. "B" Condition VI.D.2.b(2)		X		<i>General Requirements – Operating Requirements:</i> Renumbered from VI.D.2.b in previous permit. Revised language so that condition applies to all emergency engines and not just those that burn diesel.
Att. "B" Conditions VI.D.2.b(3)-(5)	X			<i>General Requirements – Operating Requirements:</i> Added conditions containing the requirements of 40 CFR 63.6625(e)(3), (f), and (h), 63.6640(a), and Table 6 to 40 CFR Part 63, Subpart ZZZZ.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Section VI.D.2.c		X		<i>General Requirements – Operation and Maintenance Requirements:</i> Changed section heading to "Operation and Maintenance Requirements".
Att. "B" Condition VI.D.2.c(1)(a)		X		<i>General Requirements – Operation and Maintenance Requirements:</i> Added language from the rule that allows the Permittee to utilize the option of an oil analysis program in lieu of the oil and filter change requirement.
Att. "B" Condition VI.D.2.c(1)(b)		X		<i>General Requirements – Operation and Maintenance Requirements:</i> Added requirement to inspect the spark plugs, which applies to the natural gas-fired spark ignition emergency engine in the Equipment List. Revised the requirement to inspection the air cleaner to refer specifically to the compression ignition emergency engines.
Att. "B" Condition VI.D.2.c(2)	X			<i>General Requirements – Operation and Maintenance Requirements:</i> Added the requirements of the oil analysis program from 40 CFR 63.6625(i).
Att. "B" Condition VI.D.2.c(2)			X	<i>General Requirements – Operation and Maintenance Requirements:</i> Deleted the condition that was previously numbered as Condition VI.D.2.c(2) because it does not apply because the Permittee currently does not have an engine that is subject to an emission limit or operating limit under 40 CFR Part 63, Subpart ZZZZ.
Att. "B" Condition VI.D.3		X		<i>Compliance Demonstration:</i> Revised the language to more accurately reflect 40 CFR 63.6640(f).
Att. "B" Condition VI.D.3.b		X		<i>Compliance Demonstration:</i> Streamlined Condition VI.D.3.b(1) in the previous permit into Condition VI.D.3.b. Revised the language to more accurately reflect 40 CFR 63.6640(f)(2) and (2)(i).
Att. "B" Condition VI.D.3.b(1)			X	<i>Compliance Demonstration:</i> Deleted and streamlined into Condition VI.D.3.b of this permit.
Att. "B" Condition VI.D.3.b(2)-(3)			X	<i>Compliance Demonstration:</i> Deleted because these conditions contained the requirements of 40 CFR 63.6640(f)(2)(ii)-(iii), which were vacated in 2015.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Section VI.D.3.c			X	<i>Compliance Demonstration:</i> Deleted because this section contained the requirements of 40 CFR 63.6640(f)(3), which are applicable to major sources for HAPs. The Cholla Generating Station is an area source for HAPs.
Att. "B" Section VI.D.3.c	X			<i>Compliance Demonstration:</i> Added a new Section VI.D.3.c containing the requirements of 40 CFR 63.6640(f)(4), which are applicable to area sources for HAPs.
Att. "B" Condition VI.D.4.a			X	<i>Recordkeeping and Reporting Requirements:</i> Deleted because this section contained requirements that are not applicable to the Permittee.
Att. "B" Condition VI.D.4.a	X			<i>Recordkeeping and Reporting Requirements:</i> Added a new Section VI.D.4.a containing the requirements of 40 CFR 63.6650(f), which are applicable to the Permittee.
Att. "B" Conditions VI.D.4.a(1)-(2)			X	<i>Recordkeeping and Reporting Requirements:</i> Deleted because this section contained reporting requirements that are not applicable to the Permittee.
Att. "B" Condition VI.D.4.b		X		<i>Recordkeeping and Reporting Requirements:</i> Revised to more closely match the language in 40 CFR 63.6650(h) and Table 7 to 40 CFR Part 63, Subpart ZZZZ.
Att. "B" Condition VI.D.4.b(1)(e)-(f)			X	<i>Recordkeeping and Reporting Requirements:</i> Deleted because these conditions referred to the requirements of 40 CFR 63.6640(f)(2)(ii)-(iii), which were vacated in 2015.
Att. "B" Condition VI.D.4.b(1)(e)	X			<i>Recordkeeping and Reporting Requirements:</i> Added a new Condition VI.D.4.b(1)(e) containing the requirements of 40 CFR 63.6650(h)(1)(vii).
Att. "B" Conditions VI.D.4.b(1)(f)-(g)		X		<i>Recordkeeping and Reporting Requirements:</i> Renumbered from Conditions VI.D.4.b(1)(g)-(h) in the previous permit.
Att. "B" Condition VI.D.4.b(2)		X		<i>Recordkeeping and Reporting Requirements:</i> Removed irrelevant language.
Att. "B" Section VI.D.4.c			X	<i>Recordkeeping and Reporting Requirements:</i> Deleted because the requirements of 40 CFR 63.6655(a) do not apply because the Permittee currently does not have an engine that is subject to an emission limit or operating limit under 40 CFR Part 63, Subpart ZZZZ.
Att. "B" Condition VI.D.4.c		X		<i>Recordkeeping and Reporting Requirements:</i> Renumbered from Condition VI.D.4.d in the previous permit.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Conditions VI.D.4.d-f	X			<i>Recordkeeping and Reporting Requirements:</i> Added conditions containing recordkeeping and reporting requirements from 40 CFR 63.6655(f), 63.6625(i), and 63.6660(a), (b), and (c).
Att. "B" Section VII: Cooling Tower 3				
Att. "B" Section VII and VII.A		X		Removed Cooling Tower 4 from the Section title and Applicability section.
Att. "B" Section VII.B		X		<i>Particulate Matter and Opacity Requirements:</i> Added "Particulate Matter" to the section header.
Att. "B" Section VII.B.1.a	X			<i>Particulate Matter and Opacity Requirements:</i> Inserted the particulate matter emission standards previously in Condition VII.C.1 into Condition VII.B.1.a
Att. "B" Section VII.B.1.b		X		<i>Particulate Matter and Opacity Requirements:</i> Renumbered from Condition VII.B.1 in previous permit.
Att. "B" Section VII.C			X	<i>Particulate Matter:</i> Section deleted. Condition VII.C.1 in previous permit was inserted as Condition VII.B.1.a. Conditions VII.C.2 and 3 in previous permit were streamlined with Conditions VII.B.2 and 3.
Att. "B" Section VII.C	X			<i>Operational Requirements:</i> New section added containing requirements from A.A.C. R18-2-730.D and G.
Att. "B" Section VIII.A: Coal Preparation Plant - Equipment Subject to Requirements from A.A.C. R18-2-716				
Att. "B" Section VIII.A		X		Section renamed to "Equipment Subject to Requirements from A.A.C. R18-2-716".
Att. "B" Condition VIII.A.1		X		<i>Applicability:</i> Updated applicability to align with updated Equipment List in Attachment "C".
Att. "B" Condition VIII.A.3.b(3)	X			<i>Particulate Matter – Air Pollution Control Requirements:</i> Added condition requiring operation and maintenance of dust collectors for all conveyor drop points whose emissions of particulate matter are not already controlled through use of a water spray/chemical dust suppression system as required in Condition VIII.A.3.b(1).
Att. "B" Conditions VIII.A.3.b(4)-(5)		X		<i>Particulate Matter – Air Pollution Control Requirements:</i> Renumbered from Conditions VIII.A.3.b(3)-(4) of Attachment "B" in previous permit.
Att. "B" Section VIII.B: Coal Preparation Plant - Equipment Subject to New Source Performance Standards (NSPS) Subpart Y				

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Section VIII.B		X		Section renamed to "Equipment Subject to New Source Performance Standards (NSPS) Subpart Y"
Att. "B" Condition VIII.B.1		X		<i>Applicability:</i> Updated applicability to align with updated Equipment List in Attachment "C".
Att. "B" Condition VIII.B.2.b(1)		X		<i>Opacity – Air Pollution Control Requirements:</i> Renumbered from Condition VIII.B.2.b of Attachment "B" of previous permit
Att. "B" Condition VIII.B.2.b(2)	X			<i>Opacity – Air Pollution Control Requirements:</i> Added condition requiring operation and maintenance of dust collectors for all conveyor drop points whose emissions of particulate matter are not already controlled through use of a water spray/chemical dust suppression system as required in Condition VIII.B.2.b(1).
Att. "B" Section IX: Fly Ash Handling Facility				
Att. "B" Condition IX.C.1		X		<i>Particulate Matter:</i> Added requirements of A.A.C. R18-2-730.B.
Att. "B" Section X: Lime Handling and Slaking				
Att. "B" Condition X.C.1		X		<i>Particulate Matter:</i> Added requirements of A.A.C. R18-2-730.B.
Att. "B" Section XII: Mobile Source Requirements				
Att. "B" Section XII			X	Deleted Section XII of Attachment "B" of previous permit, which contained mobile source requirements.
Att. "B" Section XII: Other Periodic Activities				
Att. "B" Section XII		X		Renumbered from Section XIII of Attachment "B" in previous permit.
Att. "C" Equipment List				
Att. "C"		X		Revised to reflect the most recent equipment operating at the facility, including removal of Unit 4 and associated equipment.
Att. "D" Phase II Acid Rain Provisions				
Att. "D"		X		Dates and permit application information were updated. Requirements for Unit 4 were deleted.
Att. "E" Compliance Assurance Monitoring				
Att. "E"		X		References to Unit 4 were deleted.

VIII. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS**A. Summary of Monitoring, Recordkeeping, and Reporting Requirements**

Table contains an inclusive but not an exhaustive list of the monitoring, recordkeeping and reporting requirements prescribed by the air quality permit. The table below is intended to provide insight to the public for how the Permittee is required to demonstrate compliance with the emission limits in the permit. Records are required be kept for a minimum of 5 years as outlined in Section XII of Attachment "A" of the permit.

Table 9: Permit No. 92117

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 1	PM	20% opacity	COMS at the exit of fabric filter; Annual Method 9 opacity observation of stack	The COMS shall complete one cycle of data recording for each successive 6-minute period. Maintain records of performance testing.	Submit quarterly reports of excess emissions. Report results of performance testing.

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 1	PM	<p><u>Until permanent cessation of coal burning or April 30, 2025, whichever is earlier:</u></p> <p>0.015 lb PM₁₀/MMBtu</p> <p>0.030 lb filterable PM/MMBtu or 0.30 lb filterable PM/MWh</p>	<p>Annual performance testing</p> <p>Quarterly performance testing. (Quarters with less than 168 boiler operating hours may be skipped, but a performance test shall be conducted at least once per calendar year.)</p>	<p>Maintain records of performance testing.</p> <p>Maintain records of performance testing.</p>	<p>Report results of performance testing.</p> <p>Report results of performance testing.</p>
Unit 1	PM	<p><u>Upon conversion to natural gas:</u></p> <p>0.01 lb PM₁₀/MMBtu</p>	<p>Initial performance testing within 90 days of conversion to natural gas</p>	<p>Maintain records of performance testing.</p>	<p>Report results of performance testing</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 1	SO ₂	<p><u>Until permanent cessation of coal burning or April 30, 2025, whichever is earlier:</u></p> <p>1.0 lb/MMBtu (maximum 3-hr average)</p>	SO ₂ CEMS; Annual Performance Testing	Maintain records of performance testing and of SO ₂ and O ₂ /CO ₂ CEMS data	<p>Report results of performance testing.</p> <p>Submit quarterly reports of excess emissions of 3-hour average limit.</p>
		<p>0.15 lb/MMBtu and 95% reduction (30-boiler operating day rolling averages) including periods of startup, shutdown, and malfunction</p>	SO ₂ CEMS	Maintain records of all SO ₂ CEMS data and daily 30-day rolling emission rates for SO ₂ and SO ₂ removal efficiency.	Submit semi-annual reports containing the 30-day-rolling emission rate for SO ₂ , and SO ₂ removal efficiency for the reporting period.
		<p>0.20 lb/MMBtu or 1.5 lb/MWh (30-day boiler operating day rolling average) except for periods of startup and shutdown</p>	SO ₂ CEMS	Maintain records of daily 30-day rolling emission rates for SO ₂	Submit quarterly compliance reports to EPA that include all of the 30-boiler operating day rolling average SO ₂ emission rates derived from the CEMS data.

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 1	SO ₂	<p><u>Upon conversion to natural gas:</u></p> <p>0.0006 lb/MMBtu (30-boiler operating day average) including periods of startup, shutdown, and malfunction</p>	SO ₂ CEMS	<p>Maintain records of all SO₂ CEMS data and daily 30-day rolling emission rates for SO₂.</p> <p>Maintain a record, updated annually, of a current valid purchase contract, tariff sheet, transportation contract, or other acceptable documentation specifying the maximum total sulfur content of the pipeline-quality natural gas.</p>	<p>Within 30 days of conversion to natural gas, and semi-annually thereafter, submit a report that lists the daily 30-day rolling emission rates for SO₂.</p>
Unit 1	NO _x	<p><u>Until permanent cessation of coal burning or April 30, 2025, whichever is earlier:</u></p> <p>0.22 lb/MMBtu as NO_x (30-boiler operating day average) including periods of startup, shutdown, and malfunction</p>	NO _x CEMS	<p>Maintain records of all NO_x CEMS data and daily 30-day rolling emission rates for NO_x.</p>	<p>Submit semi-annual reports containing the 30-day-rolling emission rate for NO_x for the reporting period.</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 1	NO _x	<p><u>Upon conversion to natural gas:</u></p> <p>0.20 lb/MMBtu as NO₂ (maximum 3-hr average)</p> <p>0.08 lb/MMBtu as NO_x (30-boiler operating day rolling average) including periods of startup, shutdown, and malfunction</p>	<p>NO_x CEMS; Annual Performance Testing</p> <p>NO_x CEMS</p>	<p>Maintain records of performance testing and all NO_x CEMS data.</p> <p>Maintain records of all NO_x CEMS data and daily 30-day rolling emission rates for NO_x.</p>	<p>Report results of performance testing.</p> <p>Within 30 days of conversion to natural gas, and semi-annually thereafter, submit a report that lists the daily 30-day rolling emission rates for NO_x.</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 1	CO	<p>0.15 lb/MMBtu (30-day rolling average, excluding periods of startup, shutdown, or malfunction)</p> <p>0.75 lb/MMBtu (hourly basis, excluding periods of startup, shutdown, or malfunction)</p> <p>250 lb/hr (during periods of startup, shutdown, or malfunction)</p>	CO CEMS	Maintain records of CO CEMS data.	Report excess emissions in accordance with Condition XI.B of Attachment "A".
Unit 3	PM	<p>20% opacity, except for one 6-minute period per hour of not more than 27% opacity</p> <p>43 nanograms PM per joule (ng/J) or 0.10 lb PM/MMBtu (3-hr average)</p>	<p>COMS at the exit of fabric filter; Annual Method 9 opacity observation of stack</p> <p>Annual performance testing</p>	<p>The COMS shall complete one cycle of data recording for each successive 6-minute period.</p> <p>Maintain records of performance testing.</p> <p>Maintain records of performance testing.</p>	<p>Submit quarterly excess emissions and monitoring systems (EE-MSP) reports or quarterly summary reports.</p> <p>Report results of performance testing.</p> <p>Report results of performance testing.</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 3	PM	<p><u>Until permanent cessation of coal burning or April 30, 2025, whichever is earlier:</u></p> <p>0.015 lb PM₁₀/MMBtu</p> <p>0.030 lb filterable PM/MMBtu or 0.30 lb filterable PM/MWh</p>	<p>Annual performance testing</p> <p>Quarterly performance testing, or once every 3 years if the Unit has LEE status under 40 CFR Part 63, Subpart UUUUU.</p>	<p>Maintain records of performance testing.</p> <p>Maintain records of performance testing.</p>	<p>Report results of performance testing.</p> <p>Report results of performance testing.</p>
Unit 3	PM	<p><u>Upon conversion to natural gas:</u></p> <p>0.01 lb PM₁₀/MMBtu</p>	Initial performance testing within 90 days of conversion to natural gas	Maintain records of performance testing.	Report results of performance testing

Unit 3	SO ₂	<p><u>Until permanent cessation of coal burning or April 30, 2025, whichever is earlier:</u></p> <p>340 ng/J or 0.8 lb/MMBtu (3-hr rolling average)</p>	SO ₂ CEMS	Maintain records of SO ₂ and O ₂ /CO ₂ CEMS data	Submit quarterly excess emissions and monitoring systems (EE-MSP) reports or quarterly summary reports.
		<p>0.15 lb/MMBtu and 95% reduction (30-boiler operating day rolling averages) including periods of startup, shutdown, and malfunction</p>	SO ₂ CEMS	Maintain records of all SO ₂ CEMS data and daily 30-day rolling emission rates for SO ₂ and SO ₂ removal efficiency.	Submit semi-annual reports containing the 30-day-rolling emission rate for SO ₂ , and SO ₂ removal efficiency for the reporting period.
		<p>0.20 lb/MMBtu or 1.5 lb/MWh (30-day boiler operating day rolling average) except for periods of startup and shutdown</p>	SO ₂ CEMS	Maintain records of daily 30-day rolling emission rates for SO ₂ .	Submit quarterly compliance reports to EPA that include all of the 30-boiler operating day rolling average SO ₂ emission rates derived from the CEMS data.

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 3	SO ₂	<p><u>Upon conversion to natural gas:</u></p> <p>0.0006 lb/MMBtu (30-boiler operating day average)</p>	SO ₂ CEMS	<p>Maintain records of all SO₂ CEMS data and daily 30-day rolling emission rates for SO₂.</p> <p>Maintain a record, updated annually, of a current valid purchase contract, tariff sheet, transportation contract, or other acceptable documentation specifying the maximum total sulfur content of the pipeline-quality natural gas.</p>	<p>Within 30 days of conversion to natural gas, and semi-annually thereafter, submit a report that lists the daily 30-day rolling emission rates for SO₂.</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 3	NO _x	<p><u>Until permanent cessation of coal burning or April 30, 2025, whichever is earlier:</u></p> <p>0.70 lb/MMBtu as NO₂ (3-hr rolling average)</p> <p>0.22 lb/MMBtu as NO_x (30-boiler operating day average)</p>	<p>NO_x CEMS; Annual Performance Testing</p> <p>NO_x CEMS</p>	<p>Maintain records of performance testing and all NO_x CEMS data.</p> <p>Maintain records of all NO_x CEMS data and daily 30-day rolling emission rates for NO_x.</p>	<p>Report results of performance testing.</p> <p>Submit semi-annual reports containing the 30-day-rolling emission rate for NO_x for the reporting period.</p>
Unit 3	NO _x	<p><u>Upon conversion to natural gas:</u></p> <p>0.20 lb/MMBtu as NO₂ (3-hr rolling average)</p> <p>0.08 lb/MMBtu as NO_x (30-boiler operating day rolling average)</p>	<p>NO_x CEMS; Annual Performance Testing</p> <p>NO_x CEMS</p>	<p>Maintain records of performance testing and all NO_x CEMS data.</p> <p>Maintain records of all NO_x CEMS data and daily 30-day rolling emission rates for NO_x.</p>	<p>Report results of performance testing.</p> <p>Within 30 days of conversion to natural gas, and semi-annually thereafter, submit a report that lists the daily 30-day rolling emission rates for NO_x.</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 3	CO	0.15 lb/MMBtu heat input (30-day rolling average, excluding periods of startup, shutdown, or malfunction) 0.75 lb/MMBtu (hourly basis, excluding periods of startup, shutdown, or malfunction) 350 lb/hr (during periods of startup, shutdown, or malfunction)	CO CEMS	Maintain records of CO CEMS data.	Report excess emissions in accordance with Condition XI.B of Attachment "A".

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Unit 1; Unit 3	Hg	<p><u>Until permanent cessation of coal burning or April 30, 2025, whichever is earlier:</u></p> <p>1.2 lb/Tbtu or 0.013 lb/GWh except for during periods of startup and shutdown</p> <p><u>Upon conversion to natural gas:</u></p> <p>None</p>	Hg CEMS	Calculate and record a 30-boiler operating day rolling average Hg emission rate, updated after each new boiler operating day.	Submit quarterly compliance reports to EPA that include all of the 30-boiler operating day rolling average Hg emission rates derived from the CEMS data.
Unit 1; Unit 3	N/A	<p><u>Upon conversion to natural gas:</u></p> <p>20% annual capacity factor</p>	None	Maintain records of the daily fuel usage for each Unit. At the end of each calendar year, calculate and record the heat input and the annual capacity factor for each Unit.	Within 30 days of the last day of the calendar year, report the annual capacity factor for each Unit for the calendar year that just ended.

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Emergency Engines	PM	40% opacity – for any period greater than 10 seconds	Conduct weekly visual emission surveys. See Section VIII.B below for more information on the Visual Observation Plan.	See information on Visual Observation Plan in Section VIII.B.	See information on Visual Observation Plan in Section VIII.B
	SO ₂	1.0 lb/MMBtu	None	Record the daily sulfur content and lower heating value of the fuel used in the engines. The Permittee may comply by maintaining records of fuel certifications or results of fuel sampling that are representative of the fuel currently in use.	Report to the Director any daily period which the sulfur content exceeds 0.8%.

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
	N/A	<p>Change the oil and filter and inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</p> <p>Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.</p>	Install a non-resettable hour meter.	<p>Keep records of hours of operation recorded through the non-resettable hour meter.</p> <p>If the Permittee elects to implement the oil analysis program, keep records of the parameters that are analyzed, the results of the oil analysis, and the oil changes for the engine</p> <p>Keep records of maintenance conducted on the emergency engine that demonstrate operation and maintenance in accordance with the maintenance plan</p>	None

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Sorbent Injection System, Cooling Tower 3, Coal Preparation Plant, Fly Ash Handling Facility, Lime Handling & Slaking Facility	PM	20% Opacity	Conduct weekly visual emission surveys. See Section VIII.B below for more information on the Visual Observation Plan.	See information on Visual Observation Plan in Section VIII.B	See information on Visual Observation Plan in Section VIII.B
Fugitive Dust	PM	40% Opacity	Conduct weekly visual emission surveys. See Section VIII.B below for more information on the Visual Observation Plan.	Record of the dates and types of dust control measures employed. Also, see information on Visual Observation Plan in Section VIII.B.	See information on Visual Observation Plan in Section VIII.B
Abrasive Blasting	PM	20% Opacity	None	Record the date, duration and pollution control measures of any abrasive blasting project.	None
Spray Painting	VOC	20% Opacity Control 96% of the overspray	None	Maintain records of the date, duration, quantity of paint used, any applicable MSDS, and pollution control measures of any spray painting project.	None

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Demolition/ Renovation	Asbestos	None	None	Maintain records of all asbestos related demolition or renovation projects including the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents	None

B. Visual Observation Plan

Pursuant to A.A.C. R18-2-306.A.3.c, the Permittee is required to conduct periodic monitoring at those particulate matter emission sources for which the applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring. These include all point, non-point and/or fugitive PM emission sources at the ICES, Cooling Tower 3, Coal Preparation Plant, Fly Ash Handling Facility, Lime Handling and Slaking Facility, and fugitive dust sources. The periodic monitoring is carried out through a visual observation plan that identifies a central lookout station or multiple observation points as follows:

1. Point #1: Personnel overpass located at coal handling (Northeast area of plant)

Sources observed include coal unloading, coal crushers, coal stacking, coal reclaiming, Unit 1 coal handling/silo baghouse exhaust, coal transfer tower #1, all coal drop points from coal unloading to Unit 1 silos, to transition tower, and to coal stacker, Unit 1 fly ash handling system, fly ash silo baghouse exhaust, lime silo baghouse exhaust, lime slaking wet scrubber exhaust, coal storage pile, main entrance roadway, main south/north plant road, Unit 1 sorbent silo vent, and the Administrative Building Emergency Generator.

2. Point #2: North of Unit 3 weld shop and south of Unit 2/3 Emergency Diesel Generators

Sources observed include Unit 2 and 3 Emergency Diesel Generators, Unit 3 fly ash handling, and Unit 3 sorbent silo vent.

3. Point #3: Southeast corner of Unit 4 Auxiliary Bay
Sources observed include Unit 3, coal handling system baghouse exhausts, and main East/West plant roadway.
4. Point #4: Southwest corner of Unit 4 Auxiliary Bay
Sources observed include Cooling Tower 3, Emergency Diesel Fire Pump Engines, and laydown areas.

The plan requires the Permittee to make a weekly survey of the visible emissions at the above described vintage points. If there are no visible emissions, then the Permittee is required to record the date, time, and results of the survey. If the Permittee finds that on an instantaneous basis the visible emissions are in excess of the applicable opacity limit, then a six-minute Method 9 observation is required to be made. If this observation indicates opacity in excess of the applicable opacity limit, then the Permittee is required to report it as excess emissions. If the Permittee finds that the visible emissions are less than the applicable opacity limit, then the Permittee is required to record the source of emission, date, time, and result of the observation.

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

The CAM rule applies to pollutant-specific emission units (PSEU) at a major Title V source if the unit meets all of the following criteria:

1. The unit is subject to an emission limit or standard for the applicable regulated air pollutant proposed by the Administrator prior to or on November 15, 1990 pursuant to Section 111 or 112 of the Clean Air Act;
2. The unit uses a control device to achieve compliance with the emission limit or standard; and
3. The unit has "potential pre-control device emissions" of the applicable regulated air pollutant equal to or greater than 100% of the amount (tons/year) required for a source to be classified as a major source. "Potential pre-control device emissions" means potential to emit (PTE, as defined in Title V) except emissions reductions achieved by the applicable control device are not taken into account.

The general purpose of monitoring required by the CAM rule is to assure compliance with emission standards by ensuring that control devices meet and maintain the assumed control efficiencies. Compliance is ensured through requiring monitoring of the operation and maintenance of the control equipment and, if applicable, operating conditions of the pollutant-specific emissions unit. For PSEUs that have post-control PTE greater than or equal to 100 percent of the major source threshold, the Permittee shall collect four or more data values equally spaced over each hour for each parameter monitored. Such units are defined as "large" PSEUs. For all other PSEUs ("small" PSEUs), the monitoring shall include some data collection at least once per 24-hour period.

For Cholla Generating Station, Steam Boiler Units 1 and 3 have post-control emissions above major source thresholds for PM, NO_x, and SO₂. Tables 10 and 11 below summarize whether Units 1 and 3 meet the other requirements to qualify as a large PSEU while burning coal and after conversion to burning natural gas, respectively.

Table 10: CAM Applicable Units While Burning Coal

Equipment	Parameter	Applicable Emission Standard/Limitation Proposed on or Prior to November 15, 1990	Control Device	Large PSEU?
Steam Boiler Unit 1	PM	A.A.C. R18-2-703.C.1	Fabric Filter Baghouse	Yes
	SO ₂	A.A.C. R18-2-703.G.1	2x Tray Tower Absorbers	Yes
Steam Boiler Unit 3	PM	40 CFR 60.42(a)(1)	Fabric Filter Baghouse	Yes
	SO ₂	A.A.C. R18-2-903.1	Spray Tower Absorber	Yes

Table 11: CAM Applicable Units After Conversion to Natural Gas

Equipment	Parameter	Applicable Emission Standard/Limitation Proposed on or Prior to November 15, 1990	Control Device	PSEU?
Steam Boiler Unit 1	PM	A.A.C. R18-2-703.C.1	Fabric Filter Baghouse	Yes
	SO ₂	None	2x Tray Tower Absorbers	No
Steam Boiler Unit 3	PM	40 CFR 60.42(a)(1)	Fabric Filter Baghouse	Yes
	SO ₂	None	Spray Tower Absorber	No

B. Monitoring Approach

1. Particulate Matter (PM)

As shown in Tables 10 and 11 above, Units 1 and 3 are large PSEUs for PM emissions both while burning coal and after conversion to burning natural gas. Units 1 and 3 are each equipped with a fabric filter baghouse to control the emissions of particulate matter. The monitoring approach for these devices is detailed below in Table 12.

Table 12: Monitoring Approach for Fabric Filter Baghouses

Performance Indicator	Opacity
Indicator Range	8% opacity as a block 1-hour average
Measurement Approach	The continuous opacity monitoring system (COMS) installed on outlet duct work of the fabric filter baghouses serving the boiler units shall be used to monitor opacity for each stack. Using COMS data, the Permittee shall calculate block 1-hour average opacities comprised of individual six-minute averages excluding periods of boiler startup and shutdown. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating.
QA/QC Practices and Criteria	At all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. The COMS shall meet the requirements in 40 CFR Part 60, Appendix B, Performance

Performance Indicator	Opacity
	Specification 1, "Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources".
Excursion Range	Block 1-hour average opacities of 8% or greater shall be considered an excursion. For any such excursion event, the Permittee shall initiate a mandatory investigation within 30 minutes, including inspection of the clean side of each in-service baghouse compartment for signs of dusting. If dusting is observed maintenance activities should be performed expeditiously. The Permittee shall keep records of the investigation conducted with details of any corrective action taken.

2. Sulfur Dioxide (SO₂)

As shown in Tables 10 and 11 above, Units 1 and 3 are large PSEUs for SO₂ emissions while burning coal, but will no longer be PSEUs for SO₂ emissions after conversion to burning natural gas. CAM requirements are met as per 40 CFR 64.3(d) by the permit requiring the Permittee to operate an SO₂ continuous emissions monitoring system (CEMS) on both units that meet the requirements of 40 CFR 60.13 and 40 CFR Part 75.

X. ENVIRONMENTAL JUSTICE ANALYSIS

There are no modifications at the facility associated with this permit renewal. Any increases in the potential-to-emit associated with this renewal are due to changes and corrections in calculation methodology rather than modifications at the facility. Therefore, an environmental justice analysis was not required for this renewal.

XI. AMBIENT AIR IMPACT ANALYSIS

There are no modifications at the facility associated with this permit renewal. Any increases in the potential-to-emit associated with this renewal are due to changes and corrections in calculation methodology rather than modifications at the facility. Therefore, an ambient air impact analysis was not performed for this renewal.

XII. LIST OF ABBREVIATIONS

- A.A.C. Arizona Administrative Code
- ADEQ Arizona Department of Environmental Quality
- AMS American Meteorological Society
- AQD Air Quality Division
- A.R.S. Arizona Revised Statutes
- BACT Best Available Control Technology
- Btu/ft³ British Thermal Units per Cubic Foot
- CAM Compliance Assurance Monitoring

CEMS.....	Continuous Emissions Monitoring System
CFR.....	Code of Federal Regulations
CH ₄	Methane
CO.....	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e.....	CO ₂ equivalent basis
EPA.....	Environmental Protection Agency
FERC.....	Federal Energy Regulatory Commission
°F.....	degrees Fahrenheit
ft.....	Feet
g.....	Gram
GHG.....	Greenhouse Gases
HAP.....	Hazardous Air Pollutant
HHV.....	Higher Heating Value
hp.....	Horsepower
hr.....	Hour
IC.....	Internal Combustion
kW.....	Kilowatt
MW.....	Megawatts
NAAQS.....	National Ambient Air Quality Standard
NO _x	Nitrogen Oxides
NO ₂	Nitrogen Dioxide
N ₂ O.....	Nitrous Oxide
NSPS.....	New Source Performance Standards
O ₃	Ozone
Pb.....	Lead
PM.....	Particulate Matter
PM ₁₀	Particulate Matter less than 10 µm nominal aerodynamic diameter
PM _{2.5}	Particulate Matter less than 2.5 µm nominal aerodynamic diameter
PSD.....	Prevention of Significant Deterioration
psia.....	Pounds per square Inch (absolute)
PTE.....	Potential to Emit
sec.....	Seconds
SO ₂	Sulfur Dioxide
TPY.....	Tons per Year
VOC.....	Volatile Organic Compound
yr.....	Year