Clark Public Utilities

River Road Generating Plant

Title V Basis Statement

Southwest Clean Air Agency
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(360) 574-3058

PERMIT #:	SW99-9-R3
ISSUED:	April 3, 2019
ISSUED TO:	Clark Public Utilities P.O. Box 8900 Vancouver, WA 98668
PLANT SITE:	River Road Generating Plant 5201 NW Lower River Road Vancouver, WA 98660
PERMIT ENGINEER:	Wess Safford, Air Quality Engineer
REVIEWED BY:	Paul T. Mairose, Chief Engineer

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I. GENERAL INFORMATION AND CERTIFICATION

1. **Company Name:** Clark Public Utilities

2. **Facility Name:** River Road Generating Plant

3. **Parent Company:** Clark Public Utilities

4. **Responsible Official:** Terry Toland, Energy Resources Manager

5. **Facility Contact Person:** Terry Toland, Energy Resources Manager

6. **UBI Number:** 065002678

7. **SIC Code / NAICS Number:** 4911 / 221112

8. **Basis for Title V Applicability:**
The facility is subject to the Title V Air Operating Permit program because it is an affected source under the Title IV Acid Rain program. The River Road Generating Plant is not a major source as defined in WAC 173-401-200(19).

9. **Purpose of Current Permitting Action:**
The purpose of the current permitting action is to renew the Title V permit for this facility. SWCAA has not issued any New Source Review permits for this facility and no significant physical changes have been made to facility equipment since the last Title V Permit was issued.

10. **Attainment Area:**
The River Road Generating Plant is located within the Portland-Vancouver ozone and CO maintenance area. The area was redesignated for carbon monoxide in October 1996 and for ozone in April 1997. The area is in attainment for all other pollutants.

11. **Facility Description:**
The River Road Generating Plant (River Road) is a primary power generation facility owned by Clark Public Utilities (Clark PU). River Road is configured as a natural gas-fired combined-cycle turbine facility (NGCC) with inlet fogging and an unfired heat recovery steam generator (HRSG). The facility has a total of five emission units consisting of a Combustion Turbine, a Startup Boiler, a fuel Gas Heater, a backup generator and an engine driven fire pump.

The River Road Generating Plant generates electricity for the sole use of Clark PU. Nominal generating capacity of the facility is 248 megawatts (MW) with all plant equipment functioning in direct support of the combustion turbine/generator system. Daily operation of the plant is conducted by a third party working under contract to Clark PU.

12. Facility Permitting History:

The following table list each Air Discharge Permit (ADP) issued to the facility by SWCAA. Permits labeled as obsolete have been superseded by more recent permitting actions, and are no longer in effect.

Active Permits	ADP Application	Date Issued	Proposed Action
ADP 95-1800R5	CL-1634	4/28/04	Revision of approval conditions to remove distillate oil firing, modify emission testing requirements, and clarify startup and shutdown provisions.
Obsolete/Superseded Permits			
ADP 95-1800R4	*CL-1371*	*9/16/98*	*Establishment of enforceable limits on quantity of ammonia storage at facility.*
ADP 95-1800R3	*CL-1328*	*1/19/98*	*Modification of approval to construct and operate a 248 megawatt gas-fired combined cycle power plant.*
ADP 95-1800R2	*CL-1307*	*8/21/97*	*Modification of approval to construct and operate a 248 megawatt gas-fired combined cycle power plant.*
ADP 95-1800R1	*CL-1280*	*4/7/97*	*Modification of approval to construct and operate a 248 megawatt gas-fired combined cycle power plant.*
ADP 95-1800	*CL-1164*	*10/25/95*	*Construction & operation of a 248 megawatt gas-fired combined cycle power plant.*

II. EMISSION UNIT INDENTIFICATION

EU1 Combustion Turbine

One General Electric model 7A1PFA28-1 combustion turbine (serial #296845) configured with a single unfired heat recovery steam generator (HRSG). The Combustion Turbine has a nominal electrical generating capacity of 179 MW. A single steam turbine utilizes steam from the HRSG to produce approximately 69 MW of power. The permittee operates the unit to produce baseload electrical power. Initial firing of the Combustion Turbine occurred on August 9, 1997.

The Combustion Turbine is equipped with an inlet air fogger system that helps to maintain turbine output during periods of warm ambient temperature. The turbine's combustor has an annular can-type configuration employing 14 small diameter, high mixing, dry low-NO_X combustors to minimize NO_X formation. Although originally approved to fire on both natural gas and low sulfur distillate oil, the capacity to fire distillate oil has not been installed. Emissions are controlled through the use of oxidation catalyst (CO, VOC) and selective catalytic reduction (NO_X). Exhaust gases from the Combustion Turbine/HRSG are discharged to the atmosphere through an 18-foot diameter, 198 foot tall stack. Emissions from the Combustion Turbine consist of NO_X, CO, SO_2, PM, VOC, NH_3, and TAPs.

EU2 Startup Boiler

One Nebraska Boiler model NS-E-76SH (serial #D-3570) steam boiler with a rated steam generating capacity of 70,000 pounds per hour. The Startup Boiler is used to provide process steam during periods of turbine startup, and does not operate during routine operation of the Combustion Turbine/HRSG.

The Startup Boiler is equipped with a Coen BMS-2000 burner management system and Coen Quantum low NO_X burners. The Coen burners have a rated heat input of 103.5 million British thermal units per hour (MMBtu/hr). Exhaust gases from the Startup Boiler are discharged to the atmosphere through a 4-foot diameter, 83 foot tall stack. Although originally approved to fire on both natural gas and low sulfur distillate oil, the capacity to fire distillate oil has not been installed. Emissions from the Startup Boiler consist of NO_X, CO, SO_2, PM, VOC, and TAPs.

EU3 Gas Heater

One natural gas fired gas heater manufactured in 1997 by GasTech Engineering Corporation (serial #D-2055). The Gas Heater is equipped with low-NO_X burners with a maximum heat input of 2.5 MMBtu/hr. Emissions from the Gas Heater consist of NO_X, CO, SO_2, PM, VOC, and TAPs.

EU4 Emergency Generator

One electric generator powered by a Detroit Diesel/Allison diesel engine (serial #378162) rated at 568 brake horsepower and manufactured in 1996. This unit is used to provide emergency electrical power to critical systems at the facility. Routine operation is limited to testing and maintenance.

This unit is subject to applicable requirements found in 40 CFR 63 Subpart ZZZZ. The applicable requirements became effective May 3, 2010 (Federal Register notice dated March 3, 2010) with a compliance date of May 3, 2013. Emissions from the diesel-fired emergency generator consist of NO_X, CO, SO_2, PM, VOC, and TAPs.

EU5 Emergency Fire Pump

One fire pump powered by a Detroit Diesel (Perkins) model PDFD-L6YT2504 diesel engine (serial #U630355B) rated at 110 brake horsepower and manufactured in 1996. This unit is used to provide water pressure to the facility's fire suppression system in the event of a fire. Routine operation is limited to testing and maintenance.

This unit is subject to applicable requirements found in 40 CFR 63 Subpart ZZZZ. The applicable requirements became effective May 3, 2010 (Federal Register notice dated March 3, 2010) with a compliance date of May 3, 2013. Emissions from the diesel-fired emergency fire pump consist of NO_X, CO, SO_2, PM, VOC, and TAPs.

III. INSIGNIFICANT EMISSION UNIT IDENTIFICATION

Each emission unit listed as insignificant in the permit application has been reviewed by SWCAA to confirm its status. The emission units were determined to be insignificant as follows:

IEU1 Combustion Turbine Lube Oil Tank Vent

Lubricating oil for the main turbine is stored in a single lube oil tank. Lubricating oil storage tanks are categorically exempt under WAC 173-401-532(3).

IEU2 Cooling Towers

Primary cooling of the water used to condense process steam takes place at the cooling towers. They are categorically exempt insignificant emissions units under WAC 173-401-532(121) because of processing exclusively non-contact cooling water.

IEU3 Blast Cabinet

A single blast cabinet is installed in one of the maintenance shops at the facility. The cabinet is used to surface prep (sand blast) small items in the course of general maintenance operations. The blast cabinet is exhausted to a dedicated abrasive separator/cartridge collector. Emissions from the blast cabinet are considered insignificant due to its small size, limited use, and lack of direct ambient discharge.

IEU4 Emergency Diesel Generator #2 Fuel Storage Tank

This fuel storage tank has a capacity of 300 gallons and supplies the facility's emergency generator. Storage tanks not greater than 1,100 gallons capacity with maximum vapor pressure of 550 mmHg are defined in WAC 173-401-533(2)(b) to be insignificant emission units.

IEU5 Emergency Diesel Fire Pump Fuel Storage Tank

This fuel storage tank has a capacity of 285 gallons and supplies the emergency fire pump. Storage tanks not greater than 1,100 gallons capacity with maximum vapor pressure of 550 mmHg are defined in WAC 173-401-533(2)(b) to be insignificant emission units.

IV. EXPLANATION OF SELECTED PERMIT PROVISIONS AND GENERAL TERMS AND CONDITIONS

P13. Excess Emissions **SWCAA 400-107**

SWCAA 400-107 establishes criteria and procedures for determining when excess emissions are considered unavoidable. Emissions that meet the requirements to be classified as unavoidable are still considered excess emissions and are reportable but are excused and not subject to penalty. Notification of excess emissions is required as soon as possible and shall occur by the next business day following the excess emissions event. Excess emissions due to startup or shutdown conditions are considered unavoidable if the permittee adequately demonstrates the excess emissions could not have been prevented through careful planning and design. Upset excess emissions are considered unavoidable if the permittee adequately demonstrates the upset event was not caused by poor or inadequate design, operation, maintenance, or other reasonably preventable condition, and the permittee takes appropriate corrective action that minimizes emissions during the event, taking into account the total emissions impact of that corrective action.

G5. Permit Renewal **WAC 173-401-710(1)**

An Air Operating Permit has an effective term of 5 years from the date of final issuance. Pursuant to WAC 173-401-710(1), the Permit specifies a date by which a renewal application is required to be submitted to SWCAA.

A preliminary renewal application for this facility must be submitted no later than 12 months prior to permit expiration. A complete renewal application must be received no later than 6

months prior to permit expiration. Early submittal of a preliminary application is intended to provide SWCAA with the opportunity to review the application for completeness and allow the permittee sufficient time to amend the application, if necessary, prior to the final submission date.

WAC 173-400-117, WAC 173-400-700
WAC 173-460 (*effective 8/21/98*)
SWCAA 400-109, SWCAA 400-110

G8. New Source Review **SWCAA 400-820**

Construction or modification of an air pollution source is subject to review to ensure that applicable emission standards are met, and appropriate control technology is employed. The program under which a new source or modification is reviewed depends on the type and quantity of potential air emissions associated with the project. New sources or modifications that meet the definition of a 'major stationary source' are subject to review under the Prevention of Significant Deterioration (PSD) program, which is administered by the Department of Ecology. Sources that are too small to be a major source (minor sources) are subject to review under SWCAA's new source review program. New sources or modifications that increase the emission of toxic air pollutants are subject to review under SWCAA's toxic air pollutant program, which implements the version of WAC 173-460 in effect on August 21, 1998.

G9. Portable Sources **SWCAA 400-110(6)**

SWCAA 400-110(6) establishes procedures for approving the operation of portable sources of air emissions that locate temporarily at project sites. These requirements are general standards, and apply to all portable sources of air contaminants. Equipment commonly subject to these conditions include emergency generators, engine-powered pumps, rock crushers, concrete batch plants, and hot mix asphalt plants that operate for a short time period at a site to fulfill the needs of a specific contract. Portable sources exempt from registration under SWCAA 400-101 are also exempt from SWCAA 400-110 and not subject to portable source requirements.

G16. Chemical Accident Prevention Provisions **40 CFR 68**

None of the processes at the facility currently store or handle affected substances in quantities large enough to trigger applicability of the provisions in 40 CFR 68. The primary material of concern at this facility is bulk aqueous ammonia, which is stored onsite for use in the turbine's SCR system. The existing storage tank has a physical capacity less than the applicable threshold for <20% aqueous ammonia so the regulation does not apply. However, the regulation has been included in the general terms of the permit in order to address future operations that may store or handle substances that are subject to the regulation.

G17. Reporting of Emission of Greenhouse Gases **WAC 173-441**

WAC 173-441 requires owners and operators to quantify and report emissions of greenhouse gases from applicable source categories if actual emissions from their facility are ten thousand metric tons CO_2e or more per year. Annual greenhouse gas emissions from this facility are greater than ten thousand tons so the facility is subject to the reporting program. The reporting program is administered by Ecology, and all required reports are to be submitted directly to that agency. SWCAA generally receives copies of each report, but report review and approval of calculation methodology is performed by Ecology.

V. EXPLANATION OF OPERATING TERMS AND CONDITIONS

Reqs 1-8

General Standards for Maximum Emissions **SWCAA 400-040**

SWCAA 400-040 establishes maximum emission standards for various air contaminants. These standards apply to all emission units at the source, both EU and IEU. Pursuant to WAC 401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for affected IEUs except those specifically identified by the underlying requirements. General monitoring provisions have been created under 'gap-filling' to provide reasonable compliance assurance for general standards that do not specify a monitoring regime.

Req 9

Emission Standards for Combustion and Incineration Units **SWCAA 400-050**

SWCAA 400-050 establishes maximum emission standards for selected emissions from combustion and incineration units. These requirements apply to all combustion and incineration units at the source, both EUs and IEUs. Pursuant to WAC 401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for affected IEUs except those specifically identified by the underlying requirements.

Req 10

Emission Standards for General Process Units **SWCAA 400-060**

SWCAA 400-060 establishes maximum particulate matter emission standards for general process units. These requirements apply to all general process units at the source, both EUs and IEUs. For this facility in particular, the standards only apply to IEUs because all of the EUs are combustion units not subject to the rule. Pursuant to WAC 401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for affected IEUs except those specifically identified by the underlying requirements.

Req 11

Emission Standards for Certain Source Categories Abrasive Blasting **SWCAA 400-070(8)**

SWCAA 400-070 establishes emission standards for specific source categories. SWCAA 400-070(8) establishes general limitations and work practice requirements for abrasive blasting operations. IEU3 is subject to these requirements, but consistent with WAC 401-530(2)(c), the permit does not contain any testing, monitoring, recordkeeping, or reporting requirements for the affected IEU except those specifically identified by the underlying requirements.

Reqs 12-19, 21-30, 32, 34-48

SWCAA Air Discharge Permit **ADP 95-1800R5**

ADP 95-1800R5 is the current air discharge permit for the River Road Generating Plant, and establishes emission limits and operational requirements for all of the EUs at the facility. ADP 95-1800R5 was issued on April 28, 2004 in response to permit application CL-1634, which requested modification of the facility's existing permit terms. In specific, the permittee requested removal of distillate oil as an approved fuel for the combustion turbine and startup boiler, modification of emission testing requirements for the combustion turbine and startup boiler, and insertion of startup and shutdown provisions for the combustion turbine. The requested modifications were approved as proposed. Existing emission limits and operational conditions not affected by the proposed modifications were carried forward unchanged from ADP 95-1800R4.

ADP 95-1800R5 supersedes all previously issued air discharge permits as described in the obsolete regulation section of this document. At the time of approval, emission limits, operational limits, and fuel restrictions imposed by the permit were representative of BACT.

ADP 95-1800R5 contains monitoring requirements for most of the applicable requirements cited in this section. Those monitoring requirements are generally sufficient to assure compliance and have been carried forward in the air operating permit. In cases where ADP 95-1800R5 does not specify monitoring, monitoring provisions have been developed under 'gap-filling' to provide reasonable compliance assurance. For applicable requirements that apply to equipment design or installation, SWCAA has relied upon compliance certification by the responsible official to provide compliance assurance.

Requirements 12 through 17 are plantwide emission limits for all of the criteria pollutants and ammonia. These limits reflect the operating scheme proposed by the permittee at the time of facility permitting, and apply to combined air pollutant emissions from all identified EUs at the facility. The emission limits constitute enforceable limits on potential to emit and are designed to keep the facility a minor source.

Requirement 18 prohibits the installation of rain caps that inhibit vertical discharge during active operation. This is a general permit condition from SWCAA's air discharge permits. The intent of the requirement is to maximize dispersion and dissipation of exhaust streams from affected emission units.

Requirement 19 requires the permittee to operate pollution control devices whenever the associated processing equipment is in operation, and maintain pollution control devices in accordance with manufacturer's specifications. This is a general permit condition from SWCAA's air discharge permits. The intent of the requirement is to ensure that control devices are properly maintained and employed.

Requirement 21 specifies natural gas as the only allowable fuel for the Combustion Turbine, Startup Boiler and Gas Heater. This restriction is consistent with the original permit application for the affected equipment and formed part of the basis for the associated BACT determination at the time of original approval. The use of natural gas fuel is also a prerequisite for the low use exemption found in 40 CFR 60.44b(j)&(k).

Requirements 22 and 34 specify a minimum discharge height and vertical orientation for exhaust from the Combustion Turbine and Startup Boiler. This requirement reflects the equipment configuration proposed in the original permit application and was relied upon in reviewing the likely ambient impact of emissions from the units.

Requirements 23 through 28 are BACT emission limits specific to the Combustion Turbine. The emission limits apply to emissions of criteria pollutants, VOC and NH_3. The requirements establish maximum hourly mass emission rates for all affected pollutants. The requirements also establish maximum emission concentrations for NO_X, CO and NH_3.

Requirement 29 is an exemption clause that applies to the short-term emission limits established in Requirements 23 through 28. Any emission limit with an averaging time of less than 24-hr is suspended during periods of turbine startup or shutdown. The intent of this provision is to make practical allowance for the physical limitations of the turbine and control equipment during these

transitory operational periods. Suspension of short-term limits is not allowed for greater than 12 hours during startup and 4 hours during shutdown.

Requirement 30 limits visible emissions from the Combustion Turbine consistent with proper operation of the unit. Little or no opacity is expected from operation of this unit due to its use of natural gas fuel.

Requirement 32 restricts the facility to using only aqueous ammonia in the Combustion Turbine's ammonia injection system. The requirement also limits the maximum amount of aqueous ammonia that may be stored onsite at any one time. The primary purpose of this requirement is to keep the ammonia injection system from becoming subject to the provisions of the Chemical Accident Prevention program (40 CFR 68).

Requirements 35 through 39 are BACT emission limits specific to the Startup Boiler. The emission limits apply to emissions of criteria pollutants, VOC and NH_3. The requirements establish a maximum hourly mass emission rate for each affected pollutant.

Requirement 40 limits visible emissions from the Startup Boiler consistent with proper operation of the unit. Little or no opacity is expected from operation of this unit due to its use of natural gas fuel.

Requirement 41 limits the operating capacity of the Startup Boiler to 10% or less. This limit is intended to ensure that boiler operation remains consistent with the conditions specified in 40 CFR 60.44(j)&(k).

Requirements 42 through 45 are BACT emission limits specific to the Gas Heater. The emission limits apply to emissions of selected air pollutants (NO_X, CO, PM, VOC). The requirements establish a maximum annual mass emission rate for each affected pollutant.

Requirement 46 limits visible emissions from the Gas Heater consistent with proper operation of the unit. Little or no opacity is expected from operation of this unit due to its use of natural gas fuel.

Requirement 47 limits operation of the facility's emergency generator. A maximum of 24 hr/yr of operation is allowed for the purposes of readiness checks and routine maintenance. This restriction of operation was established as part of the original approval action for the unit, and is more stringent than the 100 hr/yr maintenance and testing allowance found in 40 CFR 63.6640(f). Emergency service is not counted toward the allowed operating hours.

Requirement 48 limits operation of the facility's emergency fire pump. A maximum of 28 hr/yr of operation is allowed for the purposes of readiness checks and routine maintenance. This restriction of operation was established as part of the original approval action for the unit, and is more stringent than the 100 hr/yr maintenance and testing allowance found in 40 CFR 63.6640(f). Emergency service is not counted toward the allowed operating hours.

Req 20 **40 CFR 60.11(d)**

Compliance with Standards and Maintenance Requirements **SWCAA 400-115**

Requirement 20 is taken from 40 CFR 60.11(d), which requires the permittee to maintain and operate affected equipment in a manner that is consistent with good air pollution control practices to minimize emissions. 40 CFR 60.11(d) is a general requirement that applies specifically to emission units EU1 and EU2, which are the only units at the facility subject to a 40 CFR Part 60 performance standard. SWCAA has relied upon compliance certification by the responsible official to provide compliance assurance with this requirement.

Reqs 21, 41

New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units **40 CFR 60, Subpart Db**

40 CFR 60, Subpart Db establishes NO_X, SO_2, PM and opacity standards for industrial-commercial-institutional steam generating units with heat input capacities greater than 100 MMBtu/hr and installed after June 19, 1984. The Startup Boiler is an affected facility under this regulation, but is not subject to any active emission limits as detailed below.

Pursuant to 40 CFR 60.42b(k)(1), no SO_2 emission limit is applicable to the Startup Boiler because it combusts natural gas only and was constructed prior to 2/28/05.

Pursuant to 40 CFR 60.43b, there are no PM or opacity emission limits applicable to the Startup Boiler because it combusts natural gas only.

Pursuant to 40 CFR 60.44b(k), the Startup Boiler is not subject to a NO_X emission limit because it has a heat input capacity less than 250 MMBtu/hr and meets the criteria outlined in 40 CFR 60.44b(j) (combusts natural gas only, annual capacity factor $\leq$ 10%).

Reqs 23, 31

New Source Performance Standards for Stationary Turbines **40 CFR 60, Subpart GG**

40 CFR 60, Subpart GG establishes NO_X and SO_2 emission standards for stationary gas turbines with a heat input at peak load greater than 10.7 gigajoules per hour, and installed after October 3, 1977. The Combustion Turbine is subject to this regulation.

Pursuant to 40 CFR 60.332, the Combustion Turbine is subject to a NO_X emission limit based on the turbine's size and type. The Combustion Turbine is an electric utility stationary gas turbine with a heat input at peak load greater than 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired. 40 CFR 60.332(b) specifies calculation of the applicable NO_X standard using the equation in 40 CFR 60.332(a)(1). The calculated NO_X standard is 107 ppmvd @ 15% O_2 using a Y factor of 10.1 and an F factor of 0.

$$STD = \frac{(0.0075 * 14.4)}{Y} + F = \frac{0.0075*14.4}{10.1} + 0 = 0.0107\% \ (\sim 107 \text{ ppmv})$$

STD = Allowable NO_X emission (percent by volume, dry, @ 15% O_2)
Y = Manufacturers rated heat rate at peak load (kj/w-hr) = 10.1
F = NO_X emission allowance for fuel bound nitrogen = 0

The applicable SO_2 limit is found in 40 CFR 60.333, which allows affected facilities to comply with the SO_2 standard by means of an SO_2 emission limit or a fuel sulfur content limit. The permittee has opted to comply with the 0.8% wt fuel sulfur content limit specified in 40 CFR 60.333(b). The use of pipeline natural gas fuel complies with this requirement.

Daily monitoring of fuel nitrogen content as described in 40 CFR 60.334(h)(2) is required for any turbine that claims an allowance for fuel bound nitrogen. The permittee has not claimed any allowance for fuel bound nitrogen for the turbine at this facility, so this provision is not in use.

Req 33 **40 CFR 72.9(c)**
Acid Rain Compliance Plan **WAC 173-406-400**

The River Road Generating Plant is an "affected source" under the Acid Rain Program. 40 CFR 72.40 and WAC 173-406-400 require that the facility hold SO_2 allowances not less than the total annual emissions in tons of SO_2 from the Combustion Turbine beginning with calendar year 2000. The River Road facility does not receive an allocation of allowances. All SO_2 allowances used to meet its program obligations are obtained through open market allowance trading.

Reqs 49-53 **40 CFR 63, Subpart ZZZZ**
MACT for RICE

40 CFR 63, Subpart ZZZZ establishes standards for stationary reciprocating internal combustion engines (RICE). Under the provisions of Subpart ZZZZ, the Emergency Generator and Emergency Fire Pump at this facility are classified as existing stationary RICEs, and are subject to the regulation.

Requirement 49 limits the annual operation of both units consistent with the provisions of 40 CFR 63.6640(f).

Requirements 50-51 implement monitoring and operational requirements taken from 40 CFR 63.6625.

Requirements 52-53 implements Subpart ZZZZ operation and maintenance requirements applicable to both engines. As provided for in 40 CFR 63.6625(e), the permittee has opted to implement a facility specific maintenance plan that provides for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. The maintenance plan requires annual inspection and/or replacement of critical engine components.

VI. EXPLANATION OF OBSOLETE AND FUTURE REQUIREMENTS

OBSOLETE REQUIREMENTS:

NSPS Notification and Record Keeping **40 CFR 60.7**

The Startup Boiler and Combustion Turbine are subject to NSPS regulations (40 CFR 60, Subparts Db and GG). Therefore, these units are also subject to the notification requirements of 40 CFR, Section 60.7. These requirements have been met as described below.

Combustion Turbine

Notification of construction:	Submitted to SWCAA via letter dated February 4, 1997
Notification of anticipated startup:	Submitted to SWCAA via letter dated May 12, 1997
Notification of actual startup:	Submitted to SWCAA via letter dated August 12, 1997

Startup Boiler

Notification of construction:	Submitted to SWCAA via letter dated February 4, 1997
Notification of anticipated startup:	Submitted to SWCAA via letter dated May 12, 1997
Notification of actual startup:	Submitted to SWCAA via letter dated July 14, 1997

NSPS Initial Performance Test – Subpart GG **40 CFR 60.8**

The Combustion Turbine at this facility is subject to the NO_X standard described in 40 CFR 60.332. Therefore, the unit is also subject to the performance testing requirements of 40 CFR, Section 60.8. These requirements have been met as described below.

Initial source test:	Performed on September 11-12 and October 23, 1997
Source test report:	Submitted to SWCAA on November 20, 1997

NSPS Fuel Monitoring – Subpart GG **40 CFR 60.8**

40 CFR 60 Subpart GG was modified effective July 8, 2004. The modified rule no longer requires natural gas fired sources to monitor for fuel nitrogen or sulfur content, even if fuel sulfur monitoring was required by an alternative fuel monitoring schedule. Both WAC 173-460-115 and SWCAA 400-115 have adopted this new version of Subpart GG. Therefore, the Permittee is no longer required to follow the Alternative Fuel Monitoring Schedule issued by EPA on July 11, 1995.

Acid Rain Notifications **40 CFR 75.61**

The Combustion Turbine is subject to the requirements of 40 CFR Part 75.61 "Notifications". These requirements have been met as described below.

Actual startup date:	SWCAA notified August 12, 1997
Initial CEMS certification:	SWCAA notified June 23, 1997
Initial CEMS certification test:	Completed on September 11, 1997

Acid Rain Monitoring Plan **40 CFR 75.62**

The Combustion Turbine is subject to the requirements of 40 CFR, Section 75.62 "Monitoring Plan". The initial monitoring plan was submitted to SWCAA and EPA on June 6, 1997.

Obsolete/Superseded Regulatory Orders and Air Discharge Permits

SWCAA has issued a total of six air discharge permits for the River Road Generating Plant. As identified in Section V, only the newest permit is still active (ADP 95-1800R5). The approval conditions in the previous five permits have been superseded or have become obsolete as described below.

ADP 95-1800R4 issued September 16, 1998	Superseded by ADP 95-1800R5
ADP 95-1800R3 issued January 19, 1998	Superseded by ADP 95-1800R4
ADP 95-1800R2 issued August 21, 1997	Superseded by ADP 95-1800R3
ADP 95-1800R1 issued dated April 7, 1997	Superseded by ADP 95-1800R2
ADP 95-1800 issued October 25, 1995	Superseded by ADP 95-1800R1

FUTURE REQUIREMENTS:

No future requirements have been identified.

VII. EXPLANATION OF MONITORING TERMS AND CONDITIONS

The monitoring terms listed below incorporate formal monitoring taken from applicable regulations as well as 'gap-fill' monitoring designed to assure compliance for requirements that do not contain formal monitoring.

For applicable requirements that have one-time applicability or apply primarily to equipment design or installation, SWCAA relies upon compliance certification by the responsible official to provide compliance assurance.

General

M1. Visible Emissions Monitoring **Reqs 1, 30, 40, 46**

The applicable requirements cited in this monitoring section are requirements drawn from SWCAA 400-040 and ADP 95-1800R5. These requirements limit visible emissions, but do not directly establish any specific regime of monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring requirements under the "gap filling" provisions of WAC 173-401-615.

The inspection scheme specified by this requirement is designed to provide periodic assurance of compliance, and identify potential visible emission violations in a timely fashion, prompting corrective action when necessary. A monthly inspection frequency is considered adequate to assure compliance with applicable opacity requirements based on this source's history of continued compliance and the fact that operation of the primary emission units at this facility (Combustion Turbine, Startup Boiler, Gas Heater) is not likely to cause visible emissions.

General

M2. Fugitive Emissions/Particulate Matter Monitoring **Reqs 2-4, 8-11**

The applicable requirements cited in this monitoring section are general requirements drawn from SWCAA 400. These requirements do not establish a specific regime of monitoring or recordkeeping so SWCAA has implemented monitoring requirements under the "gap filling" provisions of WAC 173-401-615.

These requirements require the permittee to limit particulate emissions, prevent particulate matter fallout and minimize fugitive emissions. This monitoring requirement is designed to assure compliance through periodic visual inspections of the facility and prompt corrective action. A lack of visual emissions or material accumulation is considered indicative of compliance with the applicable provisions and work practices.

General

M3. Complaint Monitoring **Reqs 2, 4-5**

The applicable requirements cited in this monitoring section are general requirements drawn from SWCAA 400-040 and 400-070. These requirements do not directly establish any specific regime of monitoring or recordkeeping. Consequently, SWCAA has implemented monitoring requirements under the "gap filling" provisions of WAC 173-401-615.

The affected applicable requirements prohibit unacceptable impacts on neighboring properties and/or surrounding populations. While many of the prohibited impacts might be observed from the facility itself, compliance with all provisions can not be assured by onsite observations alone (e.g., offsite odor impact). Therefore, this monitoring scheme relies on input from affected parties. The monitoring is designed to ensure compliance through prompt complaint response and corrective action.

Combustion Turbine

M4. Operations Monitoring **Reqs 23-28**

The applicable requirements cited in this monitoring section are requirements drawn from 40 CFR 75 and ADP 95-1800R5.

The affected requirements primarily involve the monitoring and recording of operational parameters and CEMS data for the Combustion Turbine. Calibration, audit, and maintenance activities related to the CEMS are also recorded under this monitoring provision. The information collected by this monitoring provision is used directly in calculating hourly emissions from the Combustion Turbine and is an important part of assuring compliance with applicable emission limits.

Combustion Turbine

M5. General Emissions Monitoring **Reqs 6, 25-28, 31**

The applicable requirements cited in this monitoring section are drawn from 40 CFR 60.334(h)(3), 40 CFR 72, 40 CFR 75.11(d)(2), WAC 173-406-106, and ADP 95-1800R5. The section is intended to assure compliance with SO_2, PM, VOC, and NH_3 emission limits applicable to the Combustion Turbine.

CO_2 emissions are quantified using one of the procedures specified in 40 CFR 75.10(a)(3).

SO_2 emissions are quantified by calculating hourly emissions based on recorded heat input and emission factors drawn from periodic fuel sulfur monitoring data. The permittee has also opted to comply with the provisions of 40 CFR 75.11(d) by using the procedures in 40 CFR 75, Appendix D.

PM, VOC, and NH_3 emissions are quantified by calculating hourly emissions based on recorded heat input and the most recent emission test data available expressed in units of lb/MMBtu.

Combustion Turbine

M6. NO_X and CO Emissions Monitoring **Reqs 23, 24**

This monitoring section assures compliance with applicable emission limits from ADP 95-1800R5, Conditions 1 and 3 and fulfills applicable monitoring requirements from 40 CFR 75 and 40 CFR 60.334(b)(2) through the installation and maintenance of a CEMS/DAHS for NO_X and CO.

NO_X emissions are quantified by calculating hourly emissions based on recorded heat input and CEMS data expressed in units of lb/MMBtu. The emission calculations are consistent with the methodology required for NO_X calculations by 40 CFR 75.12 (40 CFR 75, Appendix F).

CO emissions are quantified by calculating hourly emissions based on recorded heat input and CEMS data expressed in units of lb/MMBtu. The emission calculations are consistent with the methodology in Equation 19-1 of 40 CFR 60, Appendix A. The CEMS is maintained in accordance with the specifications of 40 CFR 60, Appendices B and F.

Combustion Turbine

M7. Startup and Shutdown Emissions **Req 29**

Due to the physical limitations of the turbine and emission control equipment, short term emission limits for the Combustion Turbine do not apply during startup and shutdown pursuant to ADP 95-1800R5, Condition 3. However, pollutant emissions during these events are still counted when determining compliance with long term (annual) emission limits for the Combustion Turbine and the facility. To assure compliance with applicable emission limits, this monitoring section requires the permittee to clearly identify all startup and shutdown periods, and record corresponding emissions consistent with ADP 95-1800R5, Conditions 22 and 25(d).

Combustion Turbine

M8. Emissions Testing **Reqs 23-28**

This monitoring section is drawn from SWCAA 95-1800R5, Condition 29 and Appendix A. The prescribed test loads required for emission testing were revised under ADP 95-1800R5. The new test conditions require testing at greater than 95% load rather than a range of four different loads as originally specified by 40 CFR 60, Subpart GG.

Initial emission testing for the Combustion Turbine occurred on September 11-12, 1997 and October 23, 1997. The initial test quantified emissions of NO_X, CO, SO_2, PM, VOC, and NH_3. Subsequent periodic emission testing is required for NO_X, CO and NH_3. Since the VOC and PM emission profiles of the Combustion Turbine are not likely to change significantly with time, periodic emission testing for these pollutants is not required. Emission test data is used to generate emission factors for VOC, PM, and NH_3, which are then used for emission reporting purposes.

Combustion Turbine

M9. Ammonia Concentration Monitoring **Req 32**

The permittee has opted to avoid the Risk Management Plan requirements of 40 CFR 68 by limiting actual onsite aqueous ammonia storage to less than the applicable threshold of 20,000 lbs. Since 40 CFR Part 68 does not require any specific monitoring to substantiate compliance with the exemption threshold, SWCAA has implemented monitoring requirements under the "gap filling" provisions of WAC 173-401-615 to assure compliance with the exemption threshold.

The storage capacity of the current storage tank is less than 19,500 pounds so compliance assurance measures focus on substantiating that only aqueous ammonia is in use at the facility. This is accomplished by recording ammonia concentration information for each material shipment.

Startup Boiler

M10. Emissions Monitoring **Reqs 35-39, 41**

This monitoring section is drawn from 40 CFR 60.49b and SWCAA 95-1800R5, Condition 26.

To assure compliance with the provisions of 40 CFR 60.49b, Startup Boiler heat input is monitored and recorded on a daily basis. The unit's annual capacity factor is calculated for each calendar quarter on a 12-month rolling basis. Recorded heat input is used with applicable emission factors to quantify emissions and demonstrate compliance with applicable emission limits.

Startup Boiler

M11. Emission Testing **Reqs 35-39**

This monitoring section is drawn from SWCAA 95-1800R5, Condition 32 and Appendix C. Emission test data is used to generate emission factors for NO_X, CO, PM, and VOC. No emission testing is required for SO_2. The emission factor for SO_2 is taken from AP-42, Section 1.4.

The initial emission test for the Startup Boiler occurred on October 25, 1997 and tested emissions of NO_X, CO, PM, and VOC. Periodic emission testing is required for NO_X and CO. Since the VOC and PM emission profiles of this unit are not likely to change significantly with time, periodic emission testing for these pollutants is not required.

Fuel Gas Heater

M12. Emission Monitoring **Reqs 42-45**

This monitoring section is drawn from SWCAA 95-1800R5, Condition 27. Emission testing is not required for the Gas Heater due to its relatively small size. Compliance with applicable emission limits is demonstrated based on recorded fuel consumption and emission factors as cited in the Technical Support Document for ADP 95-1800R5.

Emergency Generator/Emergency Fire Pump

M13. Emissions and Operations Monitoring **Reqs 47-49, 51-53**

This monitoring section is drawn from 40 CFR 63.6655 and SWCAA 95-1800R5, Condition 28. Operation and maintenance requirements from 40 CFR 63, Subpart ZZZZ have been incorporated into the monitoring as appropriate.

Periodic testing is not required for these units due to their status as emergency use only. Compliance with applicable emission limits is demonstrated based on recorded hours of operation and emission factors taken from the Technical Support Document for ADP 95-1800R5.

Plantwide

M14. Emissions Monitoring **Reqs 12-17**

This monitoring section is drawn from ADP 95-1800R5, Requirement 36(h).

Total plantwide emissions are calculated on a 12-month rolling basis using emissions data gathered under monitoring requirements M5-M7, M10 and M12-M13. Compliance with applicable plantwide emission limits is then demonstrated by each monthly emission summary.

VIII. EXPLANATION OF RECORDKEEPING TERMS AND CONDITIONS

K1. General Recordkeeping

The requirements cited in this recordkeeping section are drawn from provisions in WAC 173-401-615(2) and ADP 95-1800R5. Recordkeeping requirements have been separated into sub-categories for easier reference. The Acid Rain Program requires that pertinent records be maintained for at least three years from the date of the record. This period has been extended to five years as required by the general recordkeeping provisions of WAC 173-401-615(2)(c).

K2. Continuous Emission Data Recordkeeping

The requirements cited in this recordkeeping section are taken from applicable sections of 40 CFR 75 and ADP 95-1800R5. The type and format of data to be recorded is specified for operating conditions and emissions of Acid Rain affected units.

IX. EXPLANATION OF REPORTING TERMS AND CONDITIONS

R1. Deviations from Permit Conditions

The permittee is required to promptly report all permit deviations pursuant to WAC 173-401-615(3), SWCAA 400-107, and ADP 95-1800R5. Reporting timelines vary depending on the type of deviation involved.

The general timeline for deviation reporting (within 30 days following the end of the month of discovery) is cited in WAC 173-401-615(3) and ADP 95-1800R5 Condition 35. The timeline for reporting if the permittee wishes to claim excess emissions as unavoidable (within 48 hours of discovery) is defined in SWCAA 400-107. The timeline for deviations that pose a potential threat to human health and safety (within 12 hours of discovery) is taken directly from WAC 173-401-615(3).

In all cases, SWCAA may request a full written report of any deviation if determined to be necessary. All permit deviations are also to be identified in the subsequent quarterly report.

R2. Complaint Reports

The permittee is required to report all complaints to SWCAA within three business days of receipt. This reporting section is based on WAC 173-401-615(3), and SWCAA's definition of "prompt" for reporting of complaints. The intent is to ensure a timely and effective response to complaints by either the facility or SWCAA.

R3. Startup and Shutdown Reports

The permittee is required to report each startup and shutdown event for the Combustion Turbine. This reporting section is taken directly from ADP 95-1800R5, Condition 39.

R4. Quarterly Reports

Although semi-annual reporting of monitoring records and certification of monitoring records is required by WAC 173-401-615(3), quarterly reporting of specified monitoring records is required by the Acid Rain Program and ADP 95-1800R5. The type of data to be reported, and the format by which it is to be reported, is specified as "General Information" and "Acid Rain Data". The

"General Information" elements are taken from WAC 173-401-615(3) and ADP 95-1800R5, Requirement 36. The "Acid Rain" elements are derived from requirements found in 40 CFR 75.64.

R5. Semi-Annual Reports

The permittee is required to submit a list of all deviations from permit conditions that have occurred in the preceding semi-annual period consistent with WAC 173-401-615(3). A Responsible Official must certify all reports previously submitted during the preceding semi-annual period if they have not otherwise been certified. No semi-annual report is necessary if all required information has been included in corresponding quarterly reports.

R6. Emission Inventory Reports

This reporting requirement is drawn from SWCAA 400-105 and ADP 95-1800R5, Condition 33. The permittee is required to submit an emissions inventory report to SWCAA by March 15th for the previous calendar year. A complete emissions inventory includes quantification of emissions from all emission units at the facility. SWCAA's Executive Director may extend the submittal date by up to 60 days, pursuant to SWCAA 400-105(1).

R7. Annual Compliance Certification

The permittee is required to report and certify compliance with all permit terms and conditions on an annual basis pursuant to SWCAA 401-630(5) and 40 CFR 72.90 (for the Combustion Turbine). The permittee is required by 40 CFR 60.11(g) to consider credible evidence when submitting compliance certifications to NSPS affected units (Combustion Turbine and Startup Boiler).

In the annual compliance certification for each Acid Rain affected unit, the permittee or designated representative must indicate whether the unit held allowances in its compliance subaccount not less than the unit's total SO_2 emissions during the calendar year covered by the annual report. The permittee is required to indicate in the certification whether the monitoring plan is current, the monitors are properly certified, and all emissions were accounted for by either direct monitoring or missing data procedures.

R8. Fuel Sulfur Content Reports

This reporting requirement is taken directly from ADP 95-1800R5, Condition 38. The permittee is required to submit the results of periodic fuel sampling (ADP 95-1800R5, Condition 31) to SWCAA within 45 days of test completion.

R9. Emission Test Reports

This reporting requirement is taken from ADP 95-1800R5, Condition 38 and Appendices A and C. The permittee is required to notify SWCAA in advance of all required source testing so that SWCAA personnel may be present during testing. Emission test results and associated operational data must be reported to SWCAA within 45 days of test completion.

R10. General Acid Rain Reports

This reporting requirement incorporates general Acid Rain reporting requirements found in 40 CFR 75.60, 75.61 and 75.63. Advance notification within specified time periods is required for the date each unit commences commercial operation, CEMS/COMS certification and recertification tests, and relative accuracy test audits for Acid Rain affected units. The reports identified in 40 CFR 75.61 and 75.63 concern notification and application for CEMS certification and recertification for affected units. An application for certification or recertification is required for Acid Rain affected

units. Each certification application is to be submitted in electronic or paper format as specified by the EPA Administrator.

X. COMPLIANCE HISTORY

SWCAA has not issued any Field Notices of Correction (FNOC) or Field Notices of Violation (FNOV) to this facility during the last permit term (April 5, 2011 through present day).

XI. TITLE V PERMIT ACTIONS

1. Current Permitting Action

Permit Renewal (AOP SW99-9-R3)

Application received:	March 30, 2015
Application complete:	July 2, 2015
Application sent to EPA:	July 2, 2015
Draft permit issued:	December 5, 2018
Proposed permit issued:	January 23, 2019
Final permit issued:	April 3, 2019

2. Previous Permitting Actions

Permit Renewal (AOP SW99-9-R2)

Application received:	February 11, 2008
Application complete:	March 13, 2008
Application sent to EPA:	March 14, 2008
Draft permit issued:	December 22, 2010
Proposed permit issued:	February 3, 2011
Final permit issued:	April 5, 2011

Permit Renewal (AOP SW99-9-R1)

Application received:	October 30, 2003
Application complete:	December 30, 2003
Application sent to EPA:	January 2, 2004
Draft permit issued:	April 30, 2004
Proposed permit issued:	June 16, 2004
Final permit issued:	August 11, 2004

Initial Permit (SW99-9-R0)

Application received:	May 29, 1998
Application complete:	June 12, 1998
Application sent to EPA:	January 12, 1999
Draft permit issued:	January 12, 1999
Proposed permit issued:	April 20, 1999
Final permit issued:	May 12, 1999
Administrative change:	June 1, 1999

XII. APPENDICES

Appendix A – Emission Testing Requirements / Combustion Turbine

Appendix A contains the complete text of ADP 95-1800R5, Appendix A *Emission Testing Requirements / Combustion Turbine.*

Appendix B – Emission Testing Requirements / Startup Boiler

Appendix B contains the complete text of ADP 95-1800R5, Appendix C *Emission Testing Requirements / Startup Boiler.*

Appendix C – Acid Rain Permit No. SW-ARP-2-R3

Appendix C contains the most recent Acid Rain Application and Permit for the River Road Generating Plant. The facility's current Acid Rain Permit (number SW-ARP-2-R2) expires concurrent with AOP SW99-9-R2. The renewal permit (number SW-ARP-2-R3) will be issued concurrent with this Air Operating Permit, and will be effective through the expiration date of this Air Operating Permit.