

Duke Energy Florida, Inc. Citrus Combined Cycle Project Air Construction Permit Application



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LIST OF ACRONYMS AND ABBREVIATIONS

°F	degree Fahrenheit
µg/m ³	microgram per cubic meter
ARP	Acid Rain Program
BACT	best available control technology
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CAMD	Clean Air Market Division
CCC	Citrus Combined Cycle
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
CI	compression ignition
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CREC	Crystal River Energy Complex
CTG	combustion turbine generator
DEF	Duke Energy Florida, Inc.
ECT	Environmental Consulting & Technology, Inc.
EPA	U.S. Environmental Protection Agency
ESP	electrostatic precipitator
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FGD	flue gas desulfurization
FR	Federal Register
g/bhp-hr	gram per brake horsepower-hour
GHG	greenhouse gas
gr S/100 scf	grain of sulfur per 100 standard cubic feet
H ₂ SO ₄	sulfuric acid
HAP	hazardous air pollutant
HHV	higher heating value
hp	horsepower
hr/yr	hour per year
HRSG	heat recovery steam generator
ICE	internal combustion engine
kW	kilowatt
LAER	lowest achievable emissions rate
lb/hr	pound per hour
lb/MMBtu	pound per million British thermal units
lb/MWh	pound per megawatt-hour
lb/ton	pound per ton
MACT	maximum achievable control technology
MMBtu/hr	million British thermal units per hour
MW	megawatt

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued, Page 2 of 2)

NAAQS	national ambient air quality standards
NESHAP	national emissions standard for hazardous air pollutant
NMHC	nonmethane hydrocarbon
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
PM	particulate matter
PM ₁₀	particulate matter less than or equal to 10 microns
PM _{2.5}	particulate matter less than or equal to 2.5 microns
ppmv _d	part per million by volume dry
PSD	prevention of significant deterioration
RACT	reasonably available control technology
RBLC	RACT/BACT/LAER Clearinghouse
RICE	reciprocating internal combustion engine
SCR	selective catalytic reduction
SER	significant emissions rate
SIP	state implement plan
SO ₂	sulfur dioxide
STG	steam turbine generator
tpy	ton per year
TSP	total suspended particulates
ULSD	ultra low-sulfur diesel
VOC	volatile organic compound

1.0 INTRODUCTION AND SUMMARY

1.1 INTRODUCTION

Duke Energy Florida, Inc. (DEF), currently operates the Crystal River Energy Complex (CREC) located near Crystal River in Citrus County, Florida, under Title V Air Operation Permit No. 0170004-043-AV. This Title V air operation permit authorizes the operation of Units 1 and 2, two pulverized coal-fired, dry-bottom, tangentially fired boilers rated at 441 and 524 megawatts (MW), respectively, and Units 4 and 5, two pulverized coal-fired, dry-bottom, wall-fired boilers, each rated at 760 MW. Units 1 and 2 are equipped with low-nitrogen oxides (NO_x) burners. Units 4 and 5 are equipped with low-NO_x burners, selective catalytic reduction (SCR) systems, flue gas desulfurization (FGD) systems, acid mist mitigation systems, and an electrostatic precipitator (ESP).

DEF plans to construct and operate a nominal 1,640-MW natural gas-fired, combined cycle combustion turbine generator (CTG) facility, identified as the Citrus Combined Cycle (CCC) Project, on property contiguous to the existing CREC facility. Since the CCC Project will be under common control and ownership, have the same Standard Industrial Classification code, and be constructed and operated on property contiguous to the existing CREC, the CCC Project will be considered a modification to an existing major stationary source.

The CCC Project will consist of two power blocks, with each power block consisting of two CTGs, two heat recovery steam generators (HRSGs) equipped with duct burners, and one steam turbine generator (STG) arranged in a two-on-one configuration. The CTGs will be Mitsubishi Model 501GAC. Each power block will also be equipped with the following ancillary equipment: one fuel gas dew point heater rated at 11.2 million British thermal units per hour (MMBtu/hr), one diesel-fired emergency generator rated at 1,500 kilowatts (kW), one 14- or 16-cell mechanical draft cooling tower for process cooling water, and potentially one six-cell cooling tower for the inlet air chillers. (Note: At this time, DEF is evaluating whether to include the inlet air chiller system in the final design of the Project. At this time, DEF does not anticipate constructing the chiller system during the initial construction of the Project, but such a system may be included as the

final design as the Project progresses or postconstruction. Therefore, the construction and operation of the chiller system is included in this application and associated analyses but is considered a potential facility.) One auxiliary steam boiler rated at 216.2 MMBtu/hr and one diesel-fired emergency firewater pump rated at 575 horsepower (hp) will service both power blocks. The CTG/HRSGs, auxiliary steam boiler, and fuel gas dew point heater will be fired exclusively with pipeline-quality natural gas, and the diesel-fired emergency generators and firewater pumps engines will be fired exclusively with ultra low-sulfur diesel (ULSD) fuel oil.

Each CTG/HRSG unit will be permitted to operate up to 8,760 hours per year (hr/yr), including up to 4,000 hr/yr of natural gas-fired HRSG duct burner operation. The fuel gas dew point heaters and both cooling towers will also be permitted to operate up to 8,760 hr/yr. The auxiliary steam boiler will be permitted to operate up to 2,000 hr/yr, and the emergency generator and firewater pump will operate up to 100 hr/yr for maintenance and testing purposes. There are no limits on the emergency engines when operating for emergency purposes.

DEF will retire Crystal River Units 1 and 2 in coordination with the commercial operation of the CCC units. The combined operation of Crystal River Units 1 and 2 will be reduced to offset any emissions from the first CCC units when it comes online. The net air emissions increase for the new proposed CCC Project was calculated by conducting a netting analysis. A netting analysis for a new emissions unit is performed by comparing the baseline actual emissions to potential emissions for each prevention of significant deterioration (PSD) pollutant. This netting analysis is described in greater detail in Section 3.0. The results of the netting analysis demonstrate that the net air emissions increase from the CCC Project, taking into account the emissions decreases from shutting down Units 1 and 2, will not trigger PSD review for any pollutant.

This report is organized as follows:

- Section 1.2 provides an overview and summary of the key regulatory determinations.
- Section 2.0 describes the proposed facility and associated air emissions.

- Section 3.0 describes new source review (NSR) requirements and discusses applicability of these requirements to the proposed CCC Project.
- Section 4.0 describes applicable state and federal emissions standards.

Appendices A through C provide the Florida Department of Environmental Protection (FDEP) Application for Air Permit—Long Form, emissions rate calculations and summary of the netting analysis, and precautions to prevent particulate matter (PM) emissions, respectively. Appendices D and E contain FDEP's Acid Rain Part forms and Clean Air Interstate Rule (CAIR) forms.

1.2 SUMMARY

The primary source of emissions from the CCC Project will result from the combustion of natural gas in the four CTG/HRSG units. Principal air emissions from the CTG/HRSG units include NO_x, sulfur dioxide (SO₂), carbon monoxide (CO), volatile organic compounds (VOCs), PM, particulate matter up to 10 micrometers in size (PM₁₀), particulate matter up to 2.5 micrometers in size (PM_{2.5}), carbon dioxide (CO₂), and sulfuric acid (H₂SO₄) mist. The CTG/HRSG units will also emit trace amounts of metallic and organic compounds. Ancillary Project emissions sources include 14- or 16-cell mechanical draft cooling towers, inlet chiller cooling towers (optional), a fuel gas dew point heater, auxiliary boiler, emergency generator diesel engine, and emergency firewater pump diesel engine.

Construction of the CCC Project is anticipated to start in early 2016, with commercial operation planned for May 2018 for the first power block and December 2018 for second power block.

Based on an evaluation of anticipated worst-case annual operating scenarios and taking into account the emissions decreases from shutting down CREC Units 1 and 2, the CCC Project will have net emissions **decrease** of 3,747 tons per year (tpy) of NO_x, 3,148 tpy of CO, 28,897 tpy of SO₂, 562 tpy of PM, 1,766 tpy of PM₁₀, 1,439 tpy of PM_{2.5}, 0.38 tpy of lead, 49 tpy of H₂SO₄ mist, and 0.07 tpy of mercury. The project will have a net emissions **increase** of 14 tpy of VOCs and 1,766,553 tpy of carbon dioxide equivalent

(CO₂e). Based on these net potential annual emissions increases/decreases and a recent U.S. Supreme Court decision¹ (described in greater detail in Section 3.0), the CCC Project does not trigger PSD review for any pollutant.

The netting and regulatory applicability analyses required for this permit application have resulted in the following conclusions that address the primary CCC Project emissions sources, the four CTG/HRSG units:

- The proposed CCC Project will not result in an air emissions increase of any PSD pollutant above the significant emissions rate (SER).
- Dry low-NO_x combustion and SCR will be used to control NO_x emissions from the CTG/HRSGs. The proposed NO_x emissions limit for operating scenarios greater than or equal to 75-percent load (i.e., with or without duct burner firing) is 15 parts per million by volume dry (ppmvd) corrected to 15-percent oxygen on a 30-unit operating day rolling average basis. The proposed NO_x emissions limit for all operating scenarios less than 75-percent load (i.e., with or without duct burner firing) is 96 ppmvd corrected to 15-percent oxygen on a 30-unit operating day rolling average basis. These proposed NO_x emissions limits represent the New Source Performance Standard (NSPS) Subpart KKKK limit for a CTG firing natural gas. The emergency generator diesel engine will achieve a NO_x plus nonmethane hydrocarbons (NMHC) emissions rate of 4.8 grams per brake-horsepower-hour (g/bhp-hr), which complies with the NSPS IIII, Compression Ignition Reciprocating Internal Combustion Engines. The emergency firewater pump diesel engine will achieve a NO_x plus NMHC emissions rate of 3.0 g/bhp-hr, which complies with NSPS Subpart IIII.
- Good combustion practices will be used to control CO and VOC emissions. CTG combustion design and operation requires a balancing of the competing goals to minimize the formation of both NO_x and CO. The emergency generator and emergency firewater pump diesel engines will achieve a CO emissions rate of 2.6 g/bhp-hr, which complies with NSPS Subpart IIII.

¹ Util. Regulatory Grp. v. EPA, No. 12-1146 (June 23, 2014).

- Exclusive use of pipeline-quality natural gas will be used to control PM (filterable) and PM₁₀/PM_{2.5} (filterable and condensable) emissions. Pipeline-quality natural gas will contain a maximum sulfur content of 2.0 grains of sulfur per 100 standard cubic feet (gr S/100 scf). The emergency generator diesel engine and emergency firewater pump diesel engine will be fired exclusively with ULSD fuel oil and will achieve a PM/PM₁₀/PM_{2.5} emissions rate of 0.15 g/bhp-hr, which complies with NSPS Subpart IIII. The mechanical draft cooling towers and inlet chiller cooling towers (optional) will employ high-efficiency drift eliminators to achieve a drift loss rate of no more than 0.0005 percent of the cooling tower recirculating water flow.
- Exclusive use of pipeline-quality natural gas will be used to control SO₂ and H₂SO₄ mist. The proposed SO₂ limit is the exclusive use of pipeline-quality natural gas containing no more than 2.0 gr S/100 scf. The emergency generator and emergency firewater pump diesel engines will be fired exclusively with ULSD fuel oil.
- A recent U.S. Supreme Court decision (Util. Air Regulatory Grp .v. EPA, No. 12-1146 [June 23, 2014]) concluded that a facility could not be subject to PSD review solely based on CO₂ emissions. The Court also held that, if the Project triggers PSD for other pollutants, the U.S. Environmental Protection Agency (EPA) has the authority to impose best available control technology (BACT) for greenhouse gases (GHGs). Because the CCC Project is not subject to PSD review for any other PSD pollutant and it cannot trigger the PSD review solely based on GHG emissions, PSD review is not required for the CCC Project.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION, AREA MAP, AND PLOT PLAN

The CCC Project will be located on an approximately 400-acre Site adjacent to the eastern boundary of DEF's existing CREC and north of the existing transmission line corridor to CREC. The facilities will consist of two two-on-one natural gas-fired combined cycle units with each unit using two advanced CTGs, two HRSGs, one STG, and directly associated facilities.

Figure 2-1 provides a Site location map for the existing CREC and proposed CCC Project. Figure 2-2 provides a Site layout of the proposed CTG/HRSG and ancillary equipment in relation to the Site. Figure 2-3 provides a detailed Site map showing the emissions units and ancillary equipment locations.

Major components of the facility will consist of:

- Four CTG/HRSG units equipped with inlet chillers (potentially), duct burners, and associated STG.
- One 216.2-MMBtu/hr natural gas-fired auxiliary boiler.
- Two 11.2-MMBtu/hr natural gas-fired fuel gas dew point heater
- Two 1,500-kW diesel fuel-fired emergency generators.
- One 575-hp diesel fuel-fired emergency firewater pump.
- Two 14- or 16-cell wet mechanical draft cooling tower (process steam).
- Two six-cell wet mechanical draft cooling tower for inlet air chillers (potentially).
- Ancillary equipment, including raw and demineralized water storage tanks and aqueous ammonia storage and handling equipment.

The four CTGs will be Mitsubishi Model 501GAC units utilizing state-of-the-art combustion technology, each capable of producing a nominal 270 MW of electricity. Each CTG may be equipped with inlet air chilling, which is designed to lower the turbine intake air during periods of higher ambient air temperatures. The CTGs will be

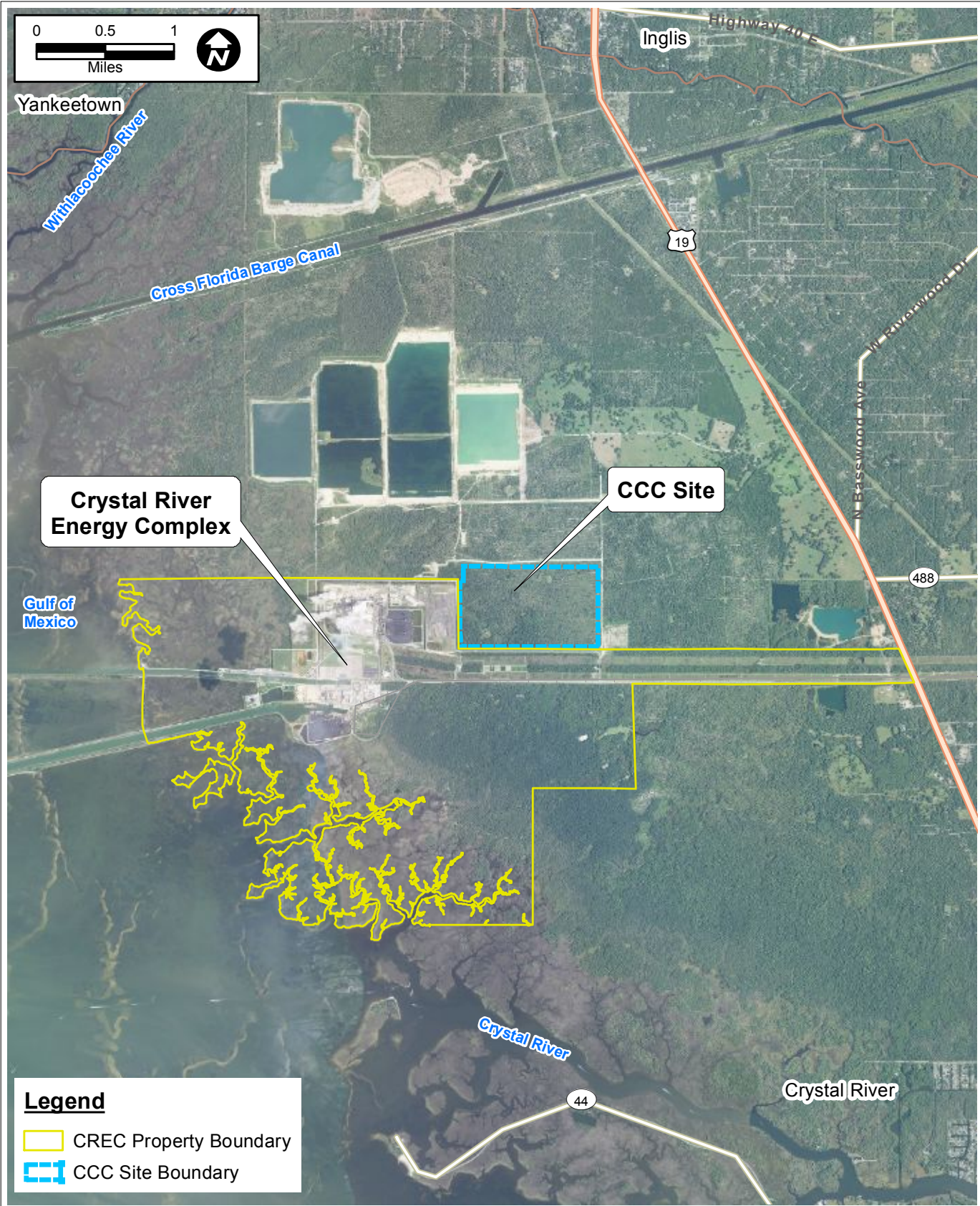


FIGURE 2-1.
GENERAL VICINITY LOCATION OF CCC SITE

Sources: ESRI, 2013; NAIP, 2013; AMEC, 2013; ECT, 2014.



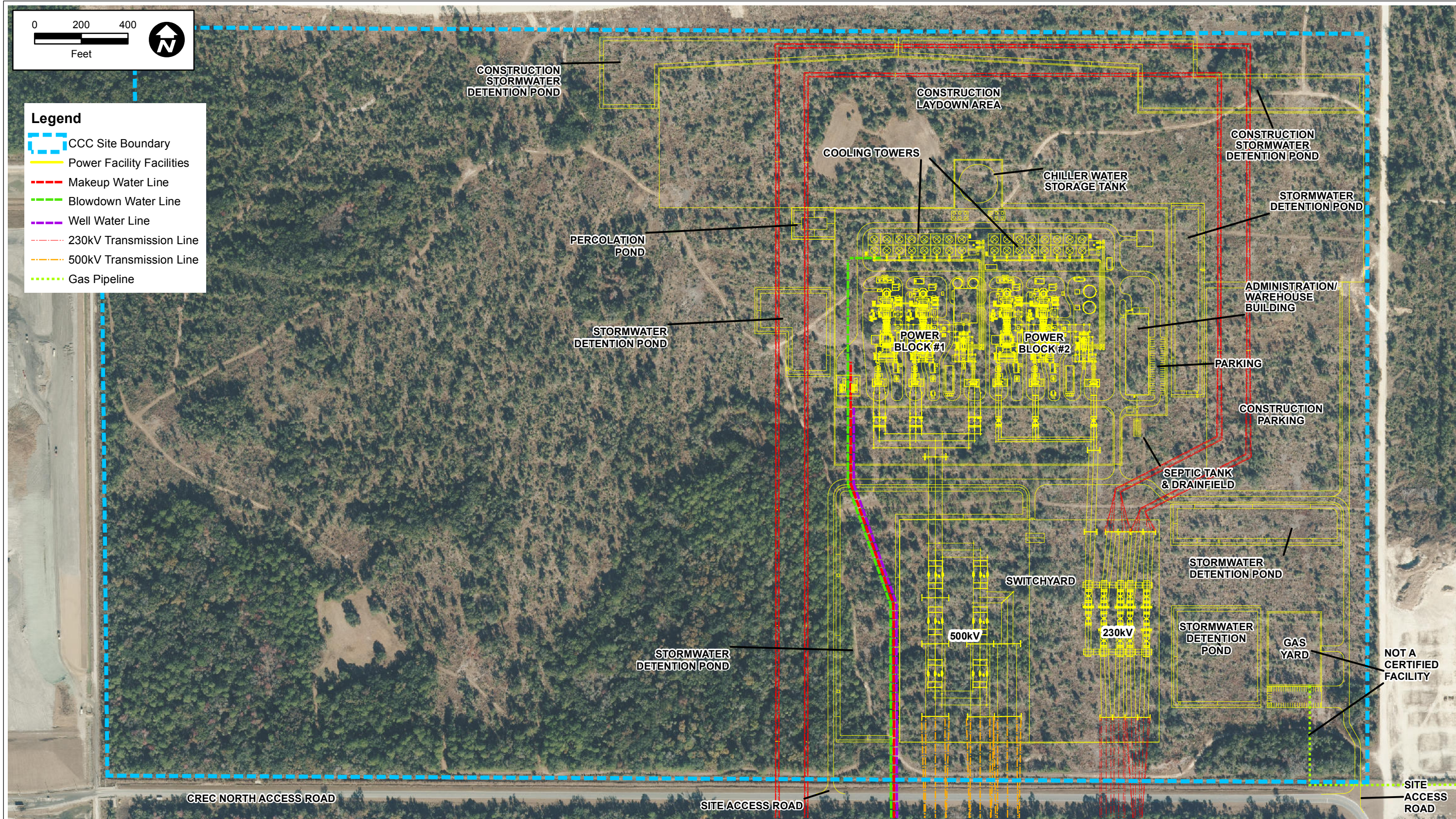
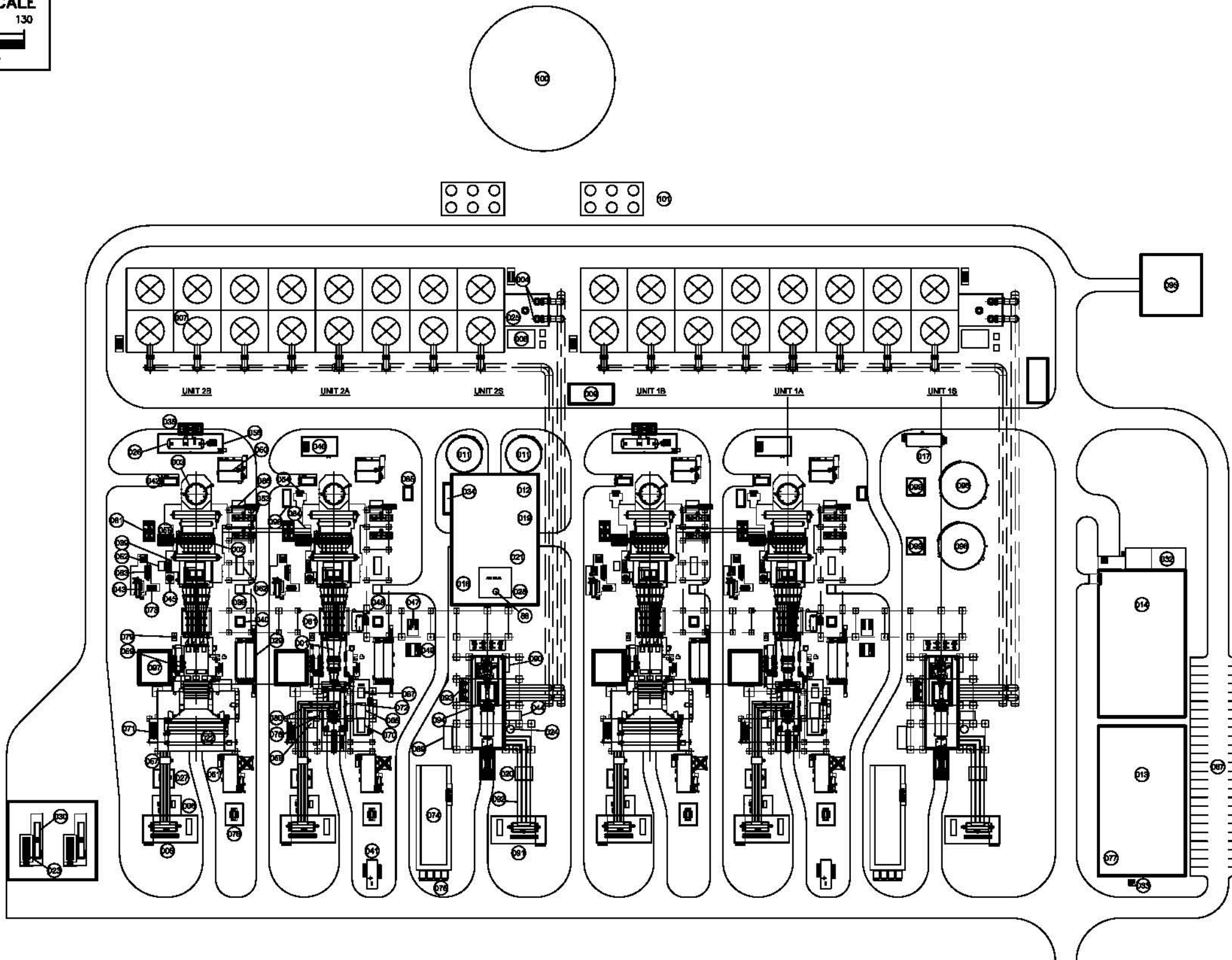
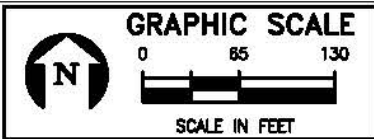


FIGURE 2-2.
 DETAILED SITE LAYOUT OF CCC FACILITIES ON THE SITE

Sources: FDOT, 2011; AMEC, 2013; Burns & McDonnell, 2014; ECT, 2014.





EQUIPMENT IDENTIFICATION AND LOCATION LIST	
001	GTG TURBINE GENERATOR (GTG)
002	HEAT RECOVERY STEAM GENERATOR (HRSG)
003	HRSG STACK
004	CIRCULATING WATER PUMPS
005	GT GBU
006	UNIT AUX TRANSFORMER
007	COOLING TOWER
008	COOLING TOWER PDC
009	COOLING TOWER CHEMICAL FEED ENCLOSURE
010	NOT USED
011	DEMINERALIZED WATER TANK
012	SERVICE ENCLOSURE
013	ADMIN BUILDING / SHOP
014	WAREHOUSE
015	NOT USED
016	BOILER CHEMICAL FEED SYSTEM
017	FIRE PUMP ENCLOSURE
018	NOT USED
019	WATER TREATMENT SYSTEM
020	81 FT SURGE CUBICLE
021	AIR COMPRESSOR
022	INLET AIR FILTER
023	H2 STORAGE WITH SUN SHADE
024	MIBC DRAIN TANK
025	AUXILIARY COOLING WATER PUMP
026	AMMONIA STORAGE
027	GTG EXCITATION TRANSFORMER
028	AUX BOILER
029	GTG ELECTRICAL ENCLOSURE
030	H2 TRUCK UNLOADING
031	NOT USED
032	LOADING DOCK
033	SANITARY LIFT STATION
034	COMPRESSED AIR TRIM COOLERS
035	TRUCK UNLOADING
036	NITROGEN STORAGE PAD
037	NOT USED
038	NOT USED
039	HRSG START TOWER
040	PHOSPHATE FEED ENCLOSURE
041	EMERGENCY DIESEL GENERATOR
042	GEMS ENCLOSURE
043	FUEL GAS PERFORMANCE HEATER
044	CONDENSATE FILTER/POLISHER
045	HRSG BLOWDOWN TANK
046	WASTEWATER COLLECTION SLUMP (BELOW GRADE)
047	CLOSED COOLING WATER PUMPS
048	CCW HEAD TANK (ON PIPE RACK)
049	CCW HEAT EXCHANGERS
050	HRSG PDC
051	GTG STARTING SYSTEM ELECTRICAL ENCLOSURE
052	HRSG ELEVATOR
053	BOILER FEED PUMPS
054	FUEL GAS COLESCING FILTER
055	CATALYST REMOVAL AREA
056	AMMONIA FORWARDING PUMPS
057	GTG MAIN CIRCUIT BREAKER
058	GTG EXCIT ELECTRICAL ENCLOSURE
059	GTG FUEL GAS ENCLOSURE
060	NOT USED
061	AMMONIA FLOW CONTROL
062	SAMPLE PANEL ENCLOSURE
063	NOT USED
064	NOT USED
065	GTG LUBE OIL UNIT
066	NOT USED
067	GTG CONTROL OIL UNIT
068	NOT USED
069	NOT USED
070	GTG AUXILIARY ENCLOSURE
071	GTG STAIR TOWER
072	GTG LOOP SEAL TANK
073	GTG FUEL GAS INLET FILTER
074	MAIN PDC
075	MAIN PDC BUS TRANSFORMERS
076	GTG STARTING SYSTEM TRANSFORMER
077	CONTROL ROOM
078	GTG NGR CUBICLE
079	GTG SLIDE WASHING DRAINS TANK (BELOW GRADE)
080	GTG CO2 FIRE PROTECTION SKID
081	GTG SLIDE WASH SKID
082	NOT USED
083	DUCT BURNER SKID
084	OVERHEAD WALKWAY PLATFORM
085	CO2 STORAGE ENCLOSURE
086	FISH AFTER COOLER
087	PARKING
088	AUX BOILER STACK
089	ST AREA STAIR TOWER
090	STG LUBE OIL SKID
091	ST GBU
092	ST ISOPHASE BUS DUCT
093	CONDENSATE PUMPS
094	STEAM TURBINE ENCLOSURE
095	OIL STORAGE ENCLOSURE
096	SERVICE / FIREWATER TANK
097	GTG CRANE PAD
098	FUEL GAS DEWPOINT HEATER
099	SERVICE WATER PUMPS
100	CHILLED WATER STORAGE TANK (POTENTIAL)
101	CHILLER MODULE/COOLING TOWER (POTENTIAL)

FIGURE 2-3.
CCC PROJECT DETAIL SITE MAP

Sources: Burns & McDonnell, 2014; ECT, 2014.



capable of operating between a nominal 50- to 100-percent load. The associated HRSG units will each have the capability of supplementary duct burner firing. Each supplemental duct burner will have a nominal heat input of 250 MMBtu/hr (based on higher heating value [HHV]). The HRSG units will furnish steam to the STG, which will be capable of producing an additional 280 MW of electricity. Therefore, each power block, consisting of two CTGs and one STG will be capable of generating a nominal 820 MW of electricity. The entire CCC Project will consist of two power blocks and be capable of producing a nominal 1,640 MW of electricity.

DEF proposes to permit the CTG/HRSGs to operate for 8,760 hr/yr, with up to 4,000 hr/yr for duct burner firing. One auxiliary boiler will serve both power blocks and be permitted to operate up to 2,000 hr/yr. The fuel gas dew point heaters, main cooling towers, and potential inlet air chiller cooling towers will be permitted to operate up to 8,760 hr/yr. The emergency diesel-fired generator and the emergency diesel-fired firewater pump will be permitted to operate up to 100 hr/yr for maintenance and testing purposes only. The hours of operation for the emergency engines are not limited when operating due to an emergency.

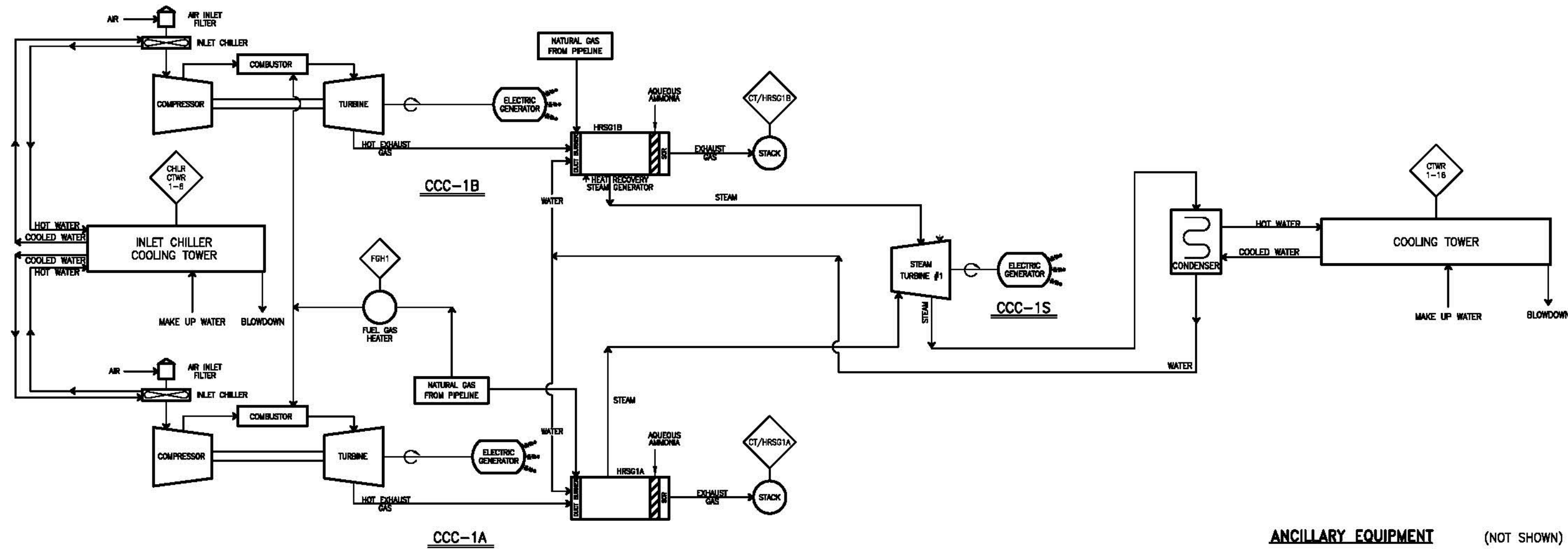
2.2 PROJECT DESCRIPTION AND PROCESS FLOW DIAGRAM

Figure 2-4 presents a process flow diagram for the CCC Project CTG/HRSGs and STG arranged in a two-on-one configuration. The CTG will be the Mitsubishi Model 501GAC using state-of-the-art combined cycle combustion technology. The CCC Project will consist of two identical power blocks, each capable of generating 820 MW of electrical generation for a total facility rating of 1,640 MW.

CTGs are heat engines that convert latent fuel energy into work using compressed hot gas as the working medium. CTGs deliver mechanical output by means of a rotating shaft that is used to drive an electrical generator, thereby converting a portion of the engine's mechanical output to electrical energy. Ambient air is first filtered and then compressed by the CTG compressor. The CTG compressor increases the pressure of the combustion air stream and also raises its temperature. If an air chiller system is constructed, on hot days, the turbine inlet ambient air would be cooled by an inlet air chiller, thus providing

LEGEND

◇ EMISSION POINT IDENTIFICATION



ANCILLARY EQUIPMENT (NOT SHOWN)

- ◇ AUX AUXILIARY BOILER (1)
- ◇ EG EMERGENCY DIESEL ENGINE GENERATOR (2)
- ◇ FWP EMERGENCY FIREWATER PUMP DIESEL ENGINE (1)

NOTE:
POWER BLOCK 1 SHOWN.
POWER BLOCK 2 IDENTICAL.

FIGURE 2-4.
PROCESS FLOW DIAGRAM FOR COMBINED CYCLE COMBUSTION TURBINE PROCESS
(ONE POWER BLOCK SHOWN)
Source: ECT, 2014.



denser air for combustion and improving the power output. The compressed combustion air is then combined with natural gas fuel and burned in the CTG's high-pressure combustor to produce hot exhaust gases. These high-pressure, hot gases next expand and turn the CTG to produce rotary shaft power that is used to drive an electric generator as well as the CTG combustion air compressor.

The hot exhaust gases from the CTGs next flow to the HRSGs for the production of low-, intermediate-, and high-pressure steam. Each HRSG recovers exhaust heat from the CTGs to produce steam to power the STG. The STG, in turn, will drive an electric generator having a nominal generation capacity of 280 MW. Each of the HRSGs will be equipped with duct burners to provide additional steam as required to meet power demands. The duct burners will be located in the HRSGs and will be fired exclusively with pipeline-quality natural gas. Following recovery of the CTG exhaust waste heat by the HRSGs, the exhaust gases are discharged to the atmosphere at a much lower temperature.

Normal operation is expected to consist of both CTG/HRSG units operating at base load without supplemental duct burner firing. Alternate facility operating modes include chilling of the inlet air, duct burner firing at peak load, and reduced load operation (i.e., between a nominal 50 and 100 percent of base load) for either of the four CTG/HRSG units, depending on power demands. The CTGs will not be designed with bypass stacks and will operate only in the combined-cycle mode.

The CTGs and duct burners will use low-NO_x combustion technology and SCR systems to control NO_x air emissions. Good combustion practices will be employed to control CO and VOC emissions. The exclusive use of pipeline-quality natural gas in the CTGs and HRSG duct burners will minimize PM/PM₁₀/PM_{2.5}, SO₂, and H₂SO₄ air emissions from the CTG/HRSG units.

2.3 EMISSIONS

Table 2-1 provides maximum hourly pollutant emissions rates for each CTG/HRSG unit at three different loads and three different ambient temperatures, including inlet air chilling (optional) and duct burner operation. Appendix B, Table B-11, defines these

Table 2-1. CTG/HRSO—Pollutant Emissions Rates (per CTG/HRSO)

Pollutant	Unit	Value*
NO _x	ppmvd at 15-percent oxygen lb/hr	15 175.3
SO ₂	ppmvd at 15-percent oxygen lb/hr	2.23 17.7
CO	ppmvd at 15-percent oxygen lb/hr	6.33 50.2
VOC	ppmvd at 15-percent oxygen lb/hr	1.3 4.9
PM ₁₀ /PM _{2.5} (total)	lb/hr	22.2
PM (filterable only)	lb/hr	10.5
H ₂ SO ₄ mist	lb/hr	2.6

*Maximum rates for all operating cases.

Sources: Burns & McDonnell, 2014.
ECT, 2014.

14 operating scenarios. The highest hourly emissions rate for each pollutant is identified, taking into account load, ambient temperature, and duct firing for use in calculating potential annual emissions. Maximum hourly emissions rates for all pollutants, in units of pounds per hour (lb/hr), are projected to occur for operations at low ambient temperature, CTG base load, and HRSG duct burner firing. Appendix B provides the basis for these emissions rates.

Table 2-2 summarizes the CCC Project potential annual emissions based on the worst-case operating scenario.

Maximum emissions of hazardous air pollutants (HAPs) are presented in Table B-16. These HAP emissions estimates were based on emissions factors obtained from AP-42, Section 3.1, dated April 2000, and other EPA data, for the CTGs; and AP-42, Section 1.4, dated July 1998, for the duct burners.

2.4 PROJECT FUELS

Key factors in DEF's decision to select a natural gas-fired combined cycle CTG facility to meet its future power needs were the exclusive use of clean fuels, fuel costs, and use of proven technology. Use of natural gas will enable DEF to take full advantage of competitive fuel pricing and availability opportunities and transportation options in the future marketplace to provide low-cost, reliable electricity to its customers.

ULSD fuel oil will also be fired in the new emergency generator diesel engine and the emergency firewater pump.

The Project will fire natural gas exclusively in the CTGs and HRSG duct burners, as well as the auxiliary boiler and the fuel gas dew point heaters. Table 2-3 presents the typical composition of pipeline-quality natural gas in Florida.

The Project will fire ULSD fuel oil exclusively in the new emergency generator diesel engine and the new emergency firewater pump engine. Table 2-4 presents the typical composition of ULSD fuel oil. The ULSD fuel oil will have a maximum sulfur content of 0.0015 weight percent.

Table 2-2. Project Potential Annual Emissions Rate Summary (Including Startup and Shutdown Emissions for All Pollutants)

Criteria Pollutant	Annual Emissions Rates (tpy)							
	CT/HRSG Units*†	Cooling Tower (2)	Auxiliary Boiler‡	Generator IC Engine (2)§	Firewater Pump IC Engine (1)§	Fuel Gas Heater (2)¶	Chiller Cooling Tower (2)	Facility Totals
NO _x	2,672.0	N/A	21.2	8.17	0.67	9.49	N/A	2,711.6
CO	1,581.6	N/A	17.8	6.39	0.82	7.97	N/A	1,614.6
VOC	260.0	N/A	1.2	3.50	0.29	0.52	N/A	265.5
SO ₂	270.5	N/A	0.1	0.00	0.14	0.06	N/A	270.8
PM	143.6	131.8	1.6	0.37	0.05	0.72	0.39	278.6
PM ₁₀	322.3	0.9	1.6	0.37	0.05	0.72	0.20	326.2
PM _{2.5}	322.3	0.9	1.6	0.37	0.05	0.72	0.20	326.2
Lead	2.32E-02	N/A	1.04E-07	Negligible	Negligible	0.0	N/A	2.32E-02
H ₂ SO ₄ mist	40.4	N/A	Negligible	Negligible	Negligible	Negligible	N/A	40.4
GHG (as CO ₂ e)	5,600,070	N/A	25,302	2,242	78	11,482	N/A	5,639,174

Note: N/A = not applicable.

*CT/HRSG annual emissions based on 15 ppmvd at 15-percent NO_x.

†CT/HRSG annual emissions based on 4,000-hr/yr duct burner firing.

Startup/shutdown emissions have been included for all pollutants.

‡Auxiliary boiler annual emissions based on 2,000 hr/yr.

§Generator and firewater pump engine annual emissions based on 500 hr/yr.

¶Fuel gas heater annual emissions based on 8,760 hr/yr.

Source: ECT, 2014.

Table 2-3. Typical Natural Gas Composition

Gas Composition	Mole Percent (by volume)
Pentane (C ₅ H ₁₂)	0.007 to 0.030
Propane (C ₃ H ₈)	0.16 to 0.30
Butane (C ₄ H ₁₀)	0.011 to 0.017
Hexane (C ₆ H ₁₄)	0.03
Nitrogen (N ₂)	0.27 to 0.45
Methane (CH ₄)	96.0 to 97.0
Carbon dioxide (CO ₂)	0.44 to 0.88
Ethane (C ₂ H ₆)	1.6 to 2.6
Heptane (C ₇ H ₁₆)	0.01
Other characteristics	
Heat content (HHV)	22,600 Btu/lb; 1,020 Btu/scf
Sulfur content	2.0 gr/100 scf*
Water vapor (H ₂ O)	0.6 lb/MMscf

Note: Btu/lb = British thermal unit per pound.
 Btu/scf = British thermal unit per standard cubic foot.
 gr/100 scf = grain per 100 standard cubic feet.
 HHV = higher heating value.
 lb/MMscf = pound per million standard cubic feet.

*FDEP-recommended maximum value for air permitting purposes.

Sources: DEF, 2014.
 ECT, 2014.

Table 2-4. Typical ULSD Composition

Component	Maximum
Carbon residue on 10-percent bottoms	0.25 weight percent
Water and sediment	0.50 percent volume
Vanadium	1.5 ppm
Calcium	4.0 ppm
Sulfur	0.0015 weight percent
Ash	100 ppm
Lead	1.0 ppm
Heat content (HHV) (minimum)	130,000 Btu/gal

Note: Btu/gal = British thermal unit per gallon.

HHV = higher heating value.

ppm = part per million.

Source: ECT, 2014.

3.0 NEW SOURCE REVIEW ANALYSIS

3.1 NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS

As a result of the 1977 Clean Air Act (CAA) Amendments (1990), EPA has enacted primary and secondary national ambient air quality standards (NAAQS) for six air pollutants (Title 40, Part 50, Code of Federal Regulations [CFR]). Primary NAAQS are intended to protect the public health, and secondary NAAQS are intended to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. Florida has adopted the federal NAAQS by reference in Rule 62-204.800(1), Florida Administrative Code (F.A.C.) Table 3-1 presents the current NAAQS.

Areas of the country in violation of NAAQS are designated as nonattainment areas, and new sources to be located in or near these areas may be subject to more stringent air permitting requirements. The CCC Project is located in Citrus County approximately 4 miles northwest of the city of Crystal River. Citrus County is presently designated in 40 CFR 81.310 as better than national standards for total suspended particulates (TSPs) and SO₂; unclassifiable/attainment for NO₂, CO, 8-hour ozone, PM_{2.5}, and lead. Citrus County is designated attainment for ozone, SO₂, CO, and NO₂ and unclassifiable for PM₁₀ and lead by Section 62-204.340, F.A.C.

3.2 NONATTAINMENT NSR APPLICABILITY

The CCC Project Site is located in Citrus County. As noted previously, Citrus County is presently designated as either better than national standards or unclassifiable/attainment for all criteria pollutants. Accordingly, the CCC Project is not subject to the nonattainment NSR requirements of Section 62-212.500, F.A.C.

Section 62-212.400, F.A.C., contains the preconstruction review requirements for PSD applicability. The following subsections describe the PSD applicability review for the CCC Project.

Table 3-1. National Ambient Air Quality Standards

Pollutant (units)	Averaging Periods	National Standards	
		Primary	Secondary
SO ₂ (ppb)	1-hour*	75	
	3-hour†		500
	24-hour†	140	
	Annual‡	30	20
PM ₁₀ (µg/m ³)	24-hour§	150	150
PM _{2.5} (µg/m ³)	24-hour☼	35	35
	Annual**	15	15
CO (ppm)	1-hour†	35	
	8-hour†	9	
Ozone (ppm)	1-hour††		
	8-hour‡‡	0.075	0.075
NO ₂ (ppb)	Annual‡	53	53
	1-hour§§	100	
Lead (µg/m ³)	Calendar quarter arithmetic mean	1.5	1.5
	Rolling quarterly average	0.15	0.15

Note: µg/m³ = microgram per cubic meter.

ppb = part per billion.

ppm = part per million.

The 1971 annual and 24-hour SO₂ standards were revoked on June 2, 2010. However, these standards remain in effect until one year after an area is designated for the 2010 standard.

*Compliance shown with three-year average of the 99th percentile of the annual distribution of the daily maximum 1-hour average concentrations.

†Not to be exceeded more than once per calendar year. Federal standard has been revoked (Volume 75, Page 35580, Federal Register [FR]) for 24-hour SO₂.

‡Arithmetic mean. Federal standard has been revoked (75 FR 35580) for SO₂.

§Standards are attained when expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³, as determined in accordance with 40 CFR 50, Appendix K, is equal to or less than 1.

☼98th percentile concentration, as determined in accordance with 40 CFR 50, Appendix N.

**Arithmetic mean concentration, as determined in accordance with 40 CFR 50, Appendix N.

††Standard attained when the expected number of calendar days per calendar year with maximum hourly average concentrations above the standard is equal to or less than 1, as determined by 40 CFR 50, Appendix H.

‡‡Standard attained when the average of the annual 4th highest daily maximum 8-hour average concentrations over a three-year period are less than or equal to the standard, as determined by 40 CFR 50, Appendix P.

§§Compliance shown with 3-year average of the 98th percentile of the annual distribution of the daily maximum 1-hour average concentrations.

Sources: 40 CFR 50.

Section 62-204.800(1), F.A.C.

3.3 PSD NSR APPLICABILITY - NETTING ANALYSIS

3.3.1 METHODOLOGY

The CCC Project as proposed includes construct a 1,640-MW natural gas-fired combined cycle CTG facility to replace the existing CREC coal-fired boilers, Units 1 and 2. To assess PSD NSR applicability for the CCC Project, an actual-to-potential applicability test, or netting analysis, in accordance with Rule 62-212.400(2)(a)(2), F.A.C., was performed to determine the net emissions increase. The actual-to-potential applicability test is used for projects that propose to construct a new emissions unit(s) and permanently shut down an existing emissions unit(s).

Net emissions increase is defined in Rule 62-210.200(189)(a), F.A.C., in part, as:

- (a) With respect to any PSD pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero (0):
 1. The increase in emissions from a particular physical change or change in the method of operation as calculated pursuant to paragraph 62-212.400(2)(a), F.A.C.; and
 2. Any other increases or decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are creditable. Baseline actual emissions for calculating increases and decreases under this subparagraph shall be determined as provided in the definition of “baseline actual emissions,” except paragraphs (a)3. and (a)4. of such definition shall not apply.

Table 3-2 presents the results of the baseline actual emissions-to-potential emissions applicability test. As shown in Table 3-2, the results of this netting analysis demonstrate that the CCC Project will not have a significant net emissions increase of any PSD pollutant and, therefore, does not trigger PSD applicability.

Table 3-2. CCC Project Net Emissions Increase Compared to PSD SERs

Pollutant	Project Net Emissions Increase (tpy)	PSD SER (tpy)	PSD Applicability
CO	-3,148	100	No
NO _x	-3,747	40	No
SO ₂	-28,897	40	No
PM (filterable)	-562	25	No
PM ₁₀ (filterable and condensable)	-1,766	15	No
PM _{2.5} (filterable and condensable)	-1,439	10	No
Ozone/VOC	14	40	No
Lead	-0.38	0.6	No
Fluorides	Not present	3	No
H ₂ SO ₄ mist	-49	7	No
Hydrogen sulfide	Not present	10	No
Total reduced sulfur (including hydrogen sulfide)	Not present	10	No
Reduced sulfur compounds (including hydrogen sulfide)	Not present	10	No
Municipal waste combustor organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)	Not present	3.5×10^{-6}	No
Municipal waste combustor metals (measured as PM)	Not present	15	No
Municipal waste combustor acid gases (measured as SO ₂ and hydrogen chloride)	Not present	40	No
Municipal solid waste landfills emissions (measured as nonmethane organic compounds)	Not present	50	No
Mercury	-0.07	0.1	No
For the pollutants listed above, and for major stationary sources locating within 10 km of a Class I area having an impact equal to or greater than 1 µg/m ³ , 24-hour average	Not applicable	Any amount	No
GHGs (as CO ₂ e)	1,766,553	—	No*

*Based on Util. Air Regulatory Grp. v. EPA, No. 12-1146 (June 23, 2014).

Sources: Rule 62-210.200(258), F.A.C.
 Burns & McDonnell, 2014.
 DEF, 2014.
 ECT, 2014.

3.3.2 BASELINE ACTUAL EMISSIONS – CREC UNITS 1 AND 2

Baseline actual emissions is defined in Rule 62-210.200(28), F.A.C., in part, as:

The rate of emissions, in tons per year, of a PSD pollutant, as follows:

- (a) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date a complete permit application is received by the Department . . .

Furthermore, Rule 62-210.200(28)(a)(3), F.A.C., states:

For a PSD pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used for each PSD pollutant.

For NO_x, SO₂, and CO₂, baseline actual emissions were calculated based on reported emissions data obtained from EPA's Clean Air Market Division (CAMD) database. These reported monthly emissions were based on continuous emissions monitoring system (CEMS) data reported under EPA's Acid Rain Program (ARP) and include emissions during periods of startup and shutdown. Emissions data was obtained for the five-year period from August 2009 through July 2014, as this represents the five-year period immediately preceding the date a complete permit application is received by FDEP.

Tables B-3, B-4, and B-5 in Appendix B present the five highest average annual 24-month periods for baseline actual emissions of NO_x, SO₂, and CO₂, respectively. As shown, the highest average annual 24-month period is the period from August 2009 to July 2011 for all three pollutants. While this period did not represent the highest baseline actual emissions period for Units 1 and 2 individually, this period was selected as both units must use the same 24-month period for each pollutant.

As shown in Table B-3 in Appendix B, the NO_x baseline actual emissions for Units 1 and 2 were 6,459 tpy. As shown in Table B-4, the SO₂ baseline actual emissions for Units 1 and 2 were 28,878 tpy. As shown in Table B-5, the CO₂ baseline actual emissions for Units 1 and 2 were 3,872,096 tpy.

To obtain baseline actual emissions for CO₂e, methane and nitrous oxide emissions were calculated based on the actual reported monthly heat input (MMBtu per month), obtained from EPA's CAMD. The highest annual heat rate, averaged over any 24-month period, was calculated and multiplied by the corresponding emissions factor obtained from the Mandatory GHG Reporting Rule, 40 CFR 98. Table B-6 in Appendix B presents the calculations for methane and nitrous oxide emissions. The same 24-month period, August 2009 through July 2011, was used for calculating methane and nitrous oxide baseline actual emissions as was used to calculate the CO₂ baseline actual emissions.

Actual emissions for VOC, PM, PM₁₀, PM_{2.5}, condensable PM and lead were obtained from annual operating reports for the years 2009 through 2013. Tables B-7 and B-8 in Appendix B present these emissions for Units 1 and 2, respectively. Since PM does not include condensables, the PM baseline actual emissions only include those reported as PM in the annual operating reports. PM₁₀ and PM_{2.5} emissions include both filterable and condensable. Therefore, reported emissions for condensable PM must be added to the reported emissions for PM₁₀ and PM_{2.5} to include both the filterable and condensable portion.

These reported emissions were based on the total fuel combusted and AP-42 emissions factors and, therefore, do not include emissions during periods of startup and shutdown. The only baseline actual emissions that include emissions during periods of startup and shutdown are NO_x, SO₂, and CO₂, because these emissions were actually recorded by a CEMS.

Actual emissions for H₂SO₄ mist were calculated based on the actual reported SO₂ emissions for the five-year period of August 2009 through July 2011. Table B-9 in Appen-

dix B presents the baseline actual H₂SO₄ mist emissions, which are also summarized in Tables B-7 and B-8.

Actual emissions for mercury were calculated based on the actual reported tons of coal consumed and the gallons of fuel oil consumed for each calendar year. Table B-10 presents the actual mercury emissions for 2009 through 2013 based on emissions factors obtained from AP-42. Baseline actual emissions were calculated based on the period 2009 through 2010 and are also summarized in Tables B-7 and B-8.

Actual emissions for CO were reported for both Units 1 and 2 in the annual operating reports for 2009 through 2013. These reported actual CO emissions were based on an emissions factor of 0.5 pound of CO per ton of bituminous coal burned (AP-42, Table 1.1-3, September 1998), which is equivalent to 0.02 pound per million British thermal units (lb/MMBtu).² This emissions factor used to report actual CO emissions for Units 1 and 2 is extremely low for boilers that are equipped or retrofit with low-NO_x burners.

While the primary function of low-NO_x burners is to provide some form of staged combustion to reduce NO_x emissions, the resulting effect is that CO emissions tend to increase. Environmental Consulting & Technology, Inc. (ECT), reviewed several documents, including a recent permitting determination where Oklahoma Gas & Electric Company retrofitted Units 1 and 2 at their Sooner Generating Station with low-NO_x burners and overfire air. Oklahoma Department of Environmental Quality stated in their technical evaluation that staged combustion through the installation of low-NO_x burners provides lower combustion temperatures, which, in turn, results in higher CO emissions.

Units 1 and 2 at the Sooner Generating Station used the 0.5 pound per ton (lb/ton) coal AP-42 emissions factor for reporting purposes prior to the installation of the low-NO_x burners and overfire air system. The Oklahoma Department of Environmental Quality determined that an emissions factor of 0.37 lb/MMBtu, based on manufacturer data, was more representative of the actual CO emissions after installation of the low-NO_x burners

² Based on the reported heat content of the coal of 23.95 million British thermal units per ton.

and overfire air system. In support of this determination, a review of EPA's Reasonably Available Control Technology (RACT)/BACT/Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC) database was conducted for permitted CO emissions limits for coal-fired boilers with originally equipped or retrofit with low-NO_x burners. There were 22 facilities identified with CO permit limits ranging from 0.15 to 0.50 lb/MMBtu, with a mean CO permit limit of 0.28 lb/MMBtu. Lakeland Electric McIntosh Unit 3 is a similar sized boiler, 364 MW, to CREC Units 1 and 2 and has a CO permit limit of 0.20 lb/MMBtu.

The CO emissions used as the baseline actual emissions for this netting analysis were based on a CO emissions factor of 0.20 lb/MMBtu. This emissions factor and resulting CO emissions are more representative of actual CO emissions for a coal-fired boiler equipped with low-NO_x burners than those calculated using the AP-42 emissions factor. Actual measured heat input (million British thermal units per year) was obtained for the CAMD database for CREC Units 1 and 2. The highest annual heat input for any 24-month average over the past five years was calculated and presented in Table B-10 in Appendix B. The resultant CO emissions are also presented in Table B-10 and are the baseline actual CO emissions for Units 1 and 2.

3.3.3 POTENTIAL EMISSIONS—CCC PROJECT

Potential annual emissions for the proposed CCC Project were calculated based on maximum hourly emissions rates and potential annual hours of operation for each emissions source. Maximum hourly emissions rates for the CTG/HRSG are presented in Table B-12 in Appendix B and include hourly emissions for three different ambient air temperatures and three different loads. Table B-12 also contains emissions duct firing at three different ambient air temperatures and the potential inlet chilling at the mid and high ambient air temperature cases.

Table 3-3 presents potential annual hours of operation for the proposed emissions units.

Table 3-3. CCC Project Potential Annual Hours of Operation

Emissions Unit	Potential Annual Hours of Operation (hr/yr)
CTGs	8,760
HRSGs	4,000
Auxiliary boiler	2,000
Fuel gas dew point heater	8,760
Cooling towers	8,760
Inlet chiller cooling tower (potentially)	8,760
Emergency diesel generators	500
Emergency diesel fire pump	500

Source: DEF, 2014.

Potential annual air emissions for the CT/HRSGs were calculated based on three different annual operating profiles. Annual operating profile #1 considered all 8,760 hr/yr of operation to be at the mid ambient air temperature of 68.6 degrees Fahrenheit (°F) with 4,000 hr/yr of duct burner firing. Table B-13 in Appendix B presents these potential annual emissions.

Annual operating profile #2 considered 1,000 hr/yr at the low ambient air temperature of 17.2°F and 2,000 hr/yr at the high ambient air temperature of 91.4°F. The remaining hours of operation were assumed to be at the mid ambient air temperature. The 4,000 hr/yr of duct firing was equally split between the mid and the high ambient air temperature cases. Table B-14 in Appendix B provides the potential annual emissions for operating profile #2.

Annual operating profile #3 is identical to annual operating profile #2 but includes emissions during periods of startup and shutdown. A startup is defined as the operation period beginning when continuous fuel flow to the gas turbine is initiated and ending when stack emissions compliance is achieved. A cold startup is defined as a startup in which the turbine has not been operational for the preceding 72 hours or more. A hot startup is defined as a startup in which the turbine has not been operational for 8 hours or less. A warm startup is defined as any startup that is neither a cold startup or a hot startup. A shutdown is defined as the operation period beginning when the turbine load is reduced and stack emissions compliance is not achieved and ending when fuel flow is discontinued to the gas turbine.

The CCC Project has assumed 6 cold startups, 15 warm startups, 174 hot startups, and 195 shutdowns per year. Emissions during periods of cold, warm, and hot startups and shutdowns have been provided by the turbine manufacturer. These emissions are provided in units of pounds per event. The durations, in minutes, for each startup and shutdown mode, are also provided by the turbine manufacturer. Table B-15 in Appendix B provides the potential annual emissions for operating profile #3.

Tables B-22 through B-29 in Appendix B present potential annual emissions for the ancillary equipment such as the auxiliary boiler, fuel gas dew point heaters, emergency diesel generators, emergency diesel fire pump, and cooling towers.

Table B-17 presents the potential emissions for the entire CCC Project that are used in the PSD netting analysis. As discussed in Section 3.3.2, the baseline actual emissions used in the netting analysis only included startup and shutdown emissions for NO_x and SO₂. NO_x and SO₂ were the only pollutants that included startup and shutdown emissions, because the actual emissions were obtained from EPA CAMD database and were based on actual emissions measured by a CEMS. These actual emissions capture emissions during all operating periods, including periods of startup and shutdown. The potential emissions for all other pollutants presented in Table B-17 do not include emissions during startup and shutdown. These potential emissions must only be used for purposes of conducting the PSD netting analysis.

Table B-18 provides potential emissions for the entire CCC Project that include emissions during periods of startup and shutdown for all pollutants.

3.3.4 GREENHOUSE GAS EMISSIONS

Rule 62-210.200(174), F.A.C., defines a *major* stationary source to include, “a stationary source that emits, or has the potential to emit, more than 250 tpy of any PSD pollutant” or more than 100 tpy for any of the 28 listed source categories. One of the 28 source categories is fossil fuel-fired steam electric plants of more than 250 MMBtu/hr heat input. Since the CCC Project is considered a fossil fuel-fired steam electric plant of more than 250 MMBtu/hr heat input, the PSD applicability threshold is 100 tpy.

On June 3, 2010, EPA issued a final rule that “tailors” the applicability provisions of the PSD program to allow EPA and states to phase in permitting requirements for GHG emissions. This final rule is more commonly known as the “Tailoring Rule.” The Tailoring Rule established PSD applicability for GHG emissions for a new stationary source to be 100,000 tpy, measured as CO₂e.

Table B-21 in Appendix B provides potential GHG emissions, expressed as CO₂e, for the entire CCC Project. These potential GHG emissions were calculated based on the heat input (MMBtu/hr) to the CTG at base load obtained from manufacturer's data and emissions factors for natural gas combustion from the Mandatory GHG Reporting Rule contained in 40 CFR 68. These potential GHG emissions were used with the baseline actual emissions in the netting analysis as shown in Table B-1. The result is that the net increase in GHG emissions is calculated to be 1,766,553 tpy.

On June 23, 2014, the Supreme Court of the United States issued a decision with respect to GHG applicability to the PSD program as well as the Title V operating permit program. The decision stated that, "EPA exceeded its statutory authority when it interpreted the Clean Air Act to require PSD and Title V permitting for stationary sources based on their greenhouse gas emissions. Specifically, the Agency may not treat greenhouse gases as a pollutant for purposes of defining a 'major emitting facility' (or a 'modification' thereof) in the PSD context or a 'major source' in the Title V context" (Util. Air Regulatory Grp. v. EPA, Case No. 12-1146, Slip Op. at 29 [June 23, 2014]).

The decision goes on further to state that, "EPA may, however, continue to treat greenhouse gases as a 'pollutant subject to regulation under this chapter' for purposes of requiring BACT for 'anyway' sources." An "anyway" source is defined as a source that would be subject to PSD applicability "anyway" due to PSD applicability of another PSD pollutant (Id).

The CCC project is not considered an "anyway" source, because the net emissions increase of all other PSD pollutants is below their respective SERs. Therefore, based on the U.S. Supreme Court's decision, the CCC Project, including its GHG emissions, is not subject to PSD applicability or BACT review.

3.4 HAP REQUIREMENTS

Florida relies on the requirements of the CAA with respect to the regulation of HAPs (also known as toxic air pollutants). These federal requirements include a comprehensive set of technology-based emissions standards referred to as National Emission Standards

for Hazardous Air Pollutants (NESHAPs). These standards establish HAP emissions limitations for a wide variety of industrial source categories. Recent NESHAPs (i.e., those adopted after the 1990 Amendments to the CAA) reflect maximum achievable control technology (MACT). Section 4.2 provides a discussion of the NESHAPs program and its applicability to the CCC Project.

4.0 STATE AND FEDERAL EMISSIONS STANDARDS

4.1 NEW SOURCE PERFORMANCE STANDARDS

Section 111 of the CAA, Standards of Performance of New Stationary Sources, requires EPA to establish federal emissions standards for source categories that cause or contribute significantly to air pollution. These standards are intended to promote use of the best air pollution control technologies, taking into account the cost of such technology and any other non-air quality, health, and environmental impact and energy requirements. These standards apply to sources that have been constructed or modified since the proposal of the standard. Since December 23, 1971, EPA has promulgated more than 75 standards. The NSPS are codified in 40 CFR 60.

Major components of the CCC Project include four CTG/HRSG units, two 14- or 16-cell mechanical draft cooling tower, two inlet air chiller cooling towers (potentially), one auxiliary boiler, two fuel gas dew point heaters, two emergency generator diesel engines, and one emergency firewater pump diesel engine. NSPSs that are potentially applicable to these Project emissions sources are discussed in the following subsections.

4.1.1 NSPS SUBPART KKKK—STATIONARY COMBUSTION TURBINES

Subpart KKKK establishes emissions limits for CTG/HRSG units that commenced construction, modification, or reconstruction after February 18, 2005, and have a heat input at peak load equal to greater than 10.7 gigajoules (10 MMBtu/hr) based on the HHV of the fuel. HRSGs and duct burners regulated under Subpart KKKK are exempt from the requirements of NSPS Subparts Da, Db, and Dc.

The affected facility under Subpart KKKK is a *stationary* combustion turbine, which is defined by Subpart KKKK (40 CFR 60.4420) as:

all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), heat recovery system, and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, any combined cycle combustion turbine, and any combined heat and power combustion turbine based system. Stationary means that the combustion

turbine is not self propelled or intended to be propelled while performing its function. It may, however, be mounted on a vehicle for portability.

NSPS Subpart KKKK specifies emissions limitations, monitoring, reporting, and record-keeping requirements for NO_x and SO₂. Applicable NSPS Subpart KKKK emissions standards are summarized as follows:

- NO_x—15 ppmvd at 15-percent oxygen, or 0.43 pound per megawatt-hour (lb/MWh) gross energy output (CTG loads greater than or equal to 75 percent of peak load).
- NO_x—96 ppmvd at 15-percent oxygen, or 4.7 lb/MWh gross energy output (CTG loads less than 75 percent of peak load).
- SO₂—0.90 lb/MWh gross energy output, or 0.060 pound per million British thermal units (lb/MMBtu).

The CCC Project CTG/HRSGs will have NO_x and SO₂ emissions well below the NSPS Subpart KKKK emissions standards and will comply with the applicable monitoring, reporting, and performance test requirements of NSPS Subpart KKKK. On January 8, 2014, EPA proposed a rule that would either revise Subparts Da and KKKK or adopt a new Subpart TTTT to address GHG emissions from new electric utility generating stationary sources. DEF acknowledges the rule will be applicable upon the effective date of the final rule and will comply with same.

4.1.2 NSPS SUBPART III—STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

NSPS Subpart III is applicable to owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after July 11, 2005, where the CI ICE are manufactured after April 1, 2006, and are not fire pump engines or after July 1, 2006, for certified National Fire Protection Association fire pump engines.

NSPS Subpart III specifies emissions limitations, monitoring, reporting, and recordkeeping requirements for NO_x, CO, NMHC, and PM. Applicable NSPS Subpart III emissions standards for the Project emergency generator diesel engine are summarized as follows:

- Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emissions standards for new nonroad CI engines in 40 CFR 60.4202 for all pollutants for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.
- Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emissions standards in Table 4 of NSPS Subpart IIII for all pollutants.

The CCC Project emergency generator diesel engines and emergency firewater pump diesel engine will comply with the applicable requirements of NSPS Subpart IIII.

4.2 NATIONAL EMISSIONS STANDARDS FOR HAPs

Section 112 of the CAA contains the provisions that address the control of HAP emissions, or air toxics. Section 112 includes provisions for the promulgation of NESHAPs, or MACT standards, as well as several related programs to enhance and support the NESHAPs program. Section 112 requires EPA to publish and regularly update (at least every eight years) a list of all categories and subcategories of major and area sources that emit HAPs. The Section 112(c) list of source categories was initially published in the Federal Register (FR) on July 16, 1992, and has been periodically revised thereafter. EPA must promulgate regulations establishing emissions standards (NESHAPs) for each category or subcategory of major sources and area sources of HAPs that are listed pursuant to Section 112(c). The standards must require the maximum degree of emissions reduction that EPA determines to be achievable by each particular source category. Different criteria for MACT apply for new and existing sources. Less stringent standards, known as generally available control technology standards, are allowed at the EPA Administrator's discretion for area sources.

4.2.1 NESHAPs SUBPART DDDDD—NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR MAJOR SOURCES: INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS

EPA promulgated a final NESHAPs for stationary CTGs (40 CFR 63, Subpart DDDDD) on February 1, 2013. Pursuant to 40 CFR 63.7485, the auxiliary boiler and fuel gas dew point heater are subject to Subpart DDDDD.

According to 40 CFR 63.7500(e), the auxiliary boiler and fuel gas dew point heater are not subject to the emissions limits in Tables 1, 2, or 11 through 13 in Subpart DDDDD. The auxiliary boiler and fuel gas dew point heater are required to conduct an annual tune-up as specified in 40 CFR 63.7540(a)(10).

4.2.2 NESHAPs SUBPART ZZZZ—RECIPROCATING INTERNAL COMBUSTION ENGINES

The source category list presently includes stationary reciprocating internal combustion engines (RICE). As required in Section 112 of the CAA, EPA promulgated a final NESHAPs for stationary RICE (40 CFR 63, Subpart ZZZZ) on June 15, 2004. Subpart ZZZZ was subsequently amended on March 3, 2010, to address CI RICE located at area HAP sources.

Pursuant to 40 CFR 63.6590(b)(1)(i), new stationary RICE with a site rating of more than 500 brake-horsepower located at a major source does not have to meet the requirements of this subpart or of Subpart A of this part except for the initial notification requirements of 40 CFR 63.6645(f). Therefore, the emergency generator diesel engine and emergency firewater pump diesel engine are not subject to Subpart ZZZZ.

4.2.3 NESHAPs SUBPART YYYY—STATIONARY COMBUSTION TURBINES

EPA promulgated a final NESHAPs for stationary CTGs (40 CFR 63, Subpart YYYY) on March 5, 2004. On April 7, 2004, EPA proposed to delete lean premix gas-fired stationary CTGs, diffusion flame gas-fired CTGs, emergency CTGs, and stationary CTGs located on the North Slope of Alaska from the Section 112(c) list of HAP source categories. On August 18, 2004, EPA stayed the effectiveness of two Subpart YYYY subcate-

gories: lean premix and diffusion flame gas-fired turbines. This stay is still currently in effect.

4.3 ACID RAIN PROGRAM

The overall goal of EPA's ARP is to achieve significant environmental and public health benefits through reductions in emissions of SO₂ and NO_x, the primary causes of acid rain. To achieve this goal at the lowest cost to society, the program employs both traditional and innovative, market-based approaches for controlling air pollution. In addition, the program encourages energy efficiency and pollution prevention.

Title IV of the CAA sets a goal of reducing annual SO₂ emissions by 10 million tons below 1980 levels. To achieve these reductions, the law required a two-phase tightening of the restrictions placed on fossil fuel-fired power plants. Phase I began in 1995 and affected 263 units at 110 mostly coal-burning electric utility plants located in 21 eastern and midwestern states. An additional 182 units joined Phase I of the program as substitution or compensating units, bringing the total of Phase I-affected units to 445. Phase II, which began in the year 2000, tightened the annual emissions limits imposed on these large, higher emitting plants and also set restrictions on smaller, cleaner plants fired by coal, oil, and gas, encompassing more than 2,000 units in all. The program affects existing utility units serving generators with an output capacity of greater than 25 MW and all new utility units.

For SO₂, the ARP introduced an allowance trading system that harnesses the incentives of the free market to reduce pollution. Under this cap-and-trade program, affected existing utility units (i.e., those in operation prior to November 15, 1990) are allocated allowances based on their historical fuel consumption and a specific emissions rate. Each allowance permits a unit to emit 1 ton of SO₂ during or after a specified year. For each ton of SO₂ emitted in a given year, one allowance is retired, that is, it can no longer be used. Allowances may be bought, sold, or banked. Anyone may acquire allowances and participate in the trading system. However, regardless of the number of allowances a source holds, it may not emit at levels that would violate federal or state limits set under Title I of the CAA to protect public health. During Phase II of the program (now in effect), the

CAA set a permanent ceiling (or cap) of 8.95 million allowances for total annual SO₂ allowance allocations to utilities. This cap firmly restricts emissions and ensures that environmental benefits will be achieved and maintained. New utility units (i.e., those that commence operation on and after November 15, 1990) are not allocated any SO₂ allowances and must obtain such allowances annually from the ARP SO₂ allowance market in amounts equal to their actual SO₂ emissions rates.

The CAA also required a 2-million-ton reduction in NO_x emissions by the year 2000. A significant portion of this reduction has been achieved by coal-fired utility boilers that will be required to install low-NO_x burner technologies and meet new emissions standards. The ARP NO_x emissions reduction requirements are only applicable to existing utility units (i.e., those in operation prior to November 15, 1990).

The Project CTG/HRSG units are subject to the ARP, because they are new utility units (i.e., commenced operation after November 15, 1990) and will serve a generator that produces electricity for sale.

4.4 CROSS-STATE AIR POLLUTION RULE

On August 8, 2011, EPA issued the final Cross-State Air Pollution Rule with an effective date of October 7, 2011. This rule is also referred to as the Transport Rule and replaced the 2005 CAIR. The Cross-State Air Pollution Rule was stayed by the U.S. Court of Appeals, District of Columbia Circuit, on December 30, 2011. On August 21, 2012, the same court vacated the Transport Rule and required EPA to continue to administer CAIR until a replacement Transport Rule is promulgated. On April 29, 2014, the Supreme Court reversed the vacatur and remanded the Cross-State Rule back to the DC Circuit for further proceedings. CAIR remains in effect.

4.5 CLEAN AIR INTERSTATE RULE

On March 10, 2005, EPA issued the final CAIR. The objective of CAIR is to assist states with PM_{2.5} and 8-hour ozone nonattainment areas to achieve attainment by reducing precursor emissions at sources located in 28 states (including Florida) situated upwind of these nonattainment areas. Based on regional dispersion modeling, EPA determined that

these 28 upwind states significantly contribute to PM_{2.5} and 8-hour ozone nonattainment in downwind areas.

The CAIR reductions of precursor emissions address annual SO₂ and NO_x emissions (for reductions in annual and daily average ambient PM_{2.5} impacts) and ozone season (May through September) NO_x emissions (for reductions in 8-hour average ambient ozone impacts). The SO₂ and NO_x reductions will be implemented by means of a regional two-phase cap-and-trade program. For SO₂, the first cap begins in calendar year 2010 and extends through 2014. For NO_x, the first cap begins in calendar year 2009 and also extends through 2014. The second phase cap for both pollutants becomes effective in calendar year 2015 and thereafter. The SO₂ caps will reduce current ARP SO₂ emissions by 50 percent in Phase I and 65 percent in Phase II. The NO_x caps reflect NO_x emissions rates of 0.15 and 0.125 lb/MMBtu for the first and second phase caps, respectively.

For each phase cap, CAIR assigns SO₂ and NO_x emissions budgets (in units of tons per year and tons per ozone season) to each affected upwind state. These state emissions budgets were developed by EPA based on the application of cost-effective control technologies (i.e., FGD) for SO₂ and SCR for NO_x. The affected states were required to submit revised state implementation plans (SIPs) within 18 months (i.e., by September 11, 2006) for EPA review and approval.

Following SIP approval and allocation of the state SO₂ and NO_x budgets to individual emissions sources, emissions units at these sources must possess sufficient SO₂ and NO_x allowances such that actual emissions (as measured by continuing emissions monitoring system) do not exceed the allocations for each control period beginning in 2009 for NO_x and 2010 for SO₂. Sources that have actual emissions in excess of their allocation will need to reduce actual emissions rates or purchase additional allowances on the open market. Emissions sources that have surplus allowances may bank the allowances for use in any future control period or sell the surplus allowances on the open market.

Florida's proposed SIP revisions implementing CAIR were submitted to EPA Region 4 on March 16, 2007, for review and approval in accordance with EPA's abbreviated SIP

approval process. Florida's SIP provided details as to the procedures that will be used to allocate the state NO_x and SO₂ budgets to individual sources. EPA approved Florida's SIP revision regarding CAIR on October 12, 2007.

Florida has adopted EPA's 40 CFR 96 CAIR NO_x and SO₂ trading programs for SIPs by reference in Section 62-204.800, F.A.C. Florida's implementation of the federal CAIR is set forth at Section 62-296.470, F.A.C. The Florida CAIR program includes emissions trading program requirements for annual SO₂ and NO_x and ozone season (May 1 through September 30) NO_x.

4.6 FLORIDA EMISSIONS STANDARDS

FDEP emissions standards for stationary sources are contained in Chapter 62-296, F.A.C., Stationary Sources, Emissions Standards. General pollutant emissions limit standards are included in Section 62-296.320, F.A.C. Sections 62-296.401 through 62-296.418, F.A.C., specify emissions standards for 18 categories of sources. Section 62-296.470 addresses CAIR requirements. Sections 62-296.500 through 570, F.A.C., establish RACT requirements for VOC- and NO_x-emitting facilities. RACT requirements for lead and PM are found in Sections 62-296.600 through 605 and 62-296.700 through 712, F.A.C., respectively. Section 62-204.800, F.A.C., adopts federal regulations, including NSPS, by reference.

With respect to the Project emissions sources, the general Rule 62-296.320(4)(b), F.A.C., visible emissions limitation of 20-percent opacity will apply to all point (i.e., stack) emissions sources. Reasonable precautions to prevent unconfined PM emissions (e.g., feedstock storage piles) will be required pursuant to Rule 62-296.320(4)(c), F.A.C.

Section 62-296.405, F.A.C., Fossil Fuel Steam Generators with More than 250 MMBtu/hr Heat Input, will apply to the CC HRSG duct burners. This section requires compliance with applicable NSPS requirements (e.g., NSPS Subpart Da or Subpart KKKK).

None of the remaining emissions standards specified in Sections 62-296.401 through 418, F.A.C., are applicable to the CCC Project.

NSPS Subparts IIII (for the emergency generator diesel engine) and KKKK (for the four CC units) will be applicable to the Project.

The Project emissions sources will comply with the applicable Florida emissions standards noted herein.

APPENDIX A

**FDEP APPLICATION FOR AIR PERMIT
LONG FORM**



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: Duke Energy Florida, Inc. (DEF)	
2. Site Name: Citrus Combined Cycle (CCC) Project	
3. Facility Identification Number: 0170004	
4. Facility Location... Street Address or Other Locator: North of Crystal River, west of U.S. 19, east of Crystal River Energy Center (CREC) City: Crystal River County: Citrus Zip Code: 34428-6708	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: John (Jamie) Hunter	
2. Application Contact Mailing Address... Organization/Firm: Duke Energy Florida, Inc. Street Address: 299 First Avenue North, Floor 903 City: St. Petersburg State: Florida Zip Code: 33701	
3. Application Contact Telephone Numbers... Telephone: (727) 820 – 5764 ext. Fax: () -	
4. Application Contact E-mail Address: john.hunter@duke-energy.com	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3. PSD Number (if applicable):
2. Project Number(s):	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

DEF's proposed CCC Project will involve the construction and operation of a new nominal 1,640-megawatt (MW) electric generating power plant and directly associated facilities on an approximately 400-acre Site in Citrus County. The Site is located adjacent to the eastern property boundary of DEF's existing CREC and adjacent to the north of the DEF-owned approximately 1,330-foot-wide transmission line and road corridor running east from CREC. The power plant will consist of four Mitsubishi 501GAC combustion turbines (CTs) with heat recovery steam generators (HRSGs) and two steam turbines arranged in a two-on-one configuration. Each power block will be rated for a nominal 820 MW. Construction activities for the Project are scheduled to begin in February 2016, and commercial operation is scheduled for May 2018 for the first power block and December 2018 for the second power block.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
Not applicable	CTs/HRSGs	AC1B	Not applicable
Not applicable	Auxiliary boiler	AC1E	Not applicable
Not applicable	Emergency generator	AC1E	Not applicable
Not applicable	Emergency firewater pump	AC1F	Not applicable
Not applicable	Fuel gas dew point heater	AC1E	Not applicable
Not applicable	Cooling towers	AC1B	Not applicable
Not applicable	Inlet chiller cooling towers	AC1F	Not applicable


Application Processing Fee

Check one: Attached - Amount: \$ _____ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : R. Alexander Glenn
2. Owner/Authorized Representative Mailing Address... Organization/Firm: Duke Energy Florida, Inc. Street Address: 299 First Avenue North City: St. Petersburg State: Florida Zip Code: 33701
3. Owner/Authorized Representative Telephone Numbers... Telephone: (727) 820 – 5657 ext. Fax: () -
4. Owner/Authorized Representative E-mail Address:
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i>  Signature <u>July 30, 2014</u> Date

APPLICATION INFORMATION

Application Responsible Official Certification


Not Applicable

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the “application responsible official” need not be the “primary responsible official.”

1. Application Responsible Official Name:
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source or CAIR source.
3. Application Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
4. Application Responsible Official Telephone Numbers... Telephone: () - ext. Fax: () -
5. Application Responsible Official E-mail Address:
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i> _____ Signature _____ Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: William F. Karl Registration Number: 67498
2. Professional Engineer Mailing Address... Organization/Firm: Environmental Consulting and Technology, Inc. Street Address: 3701 Northwest 98th Street City: Gainesville State: Florida Zip Code: 32606
3. Professional Engineer Telephone Numbers... Telephone: (352) 248 – 3313 ext. Fax: (352) 332 – 6722
4. Professional Engineer E-mail Address: bkarl@ectinc.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>  Signature <u><i>William F. Karl</i></u> Date <u><i>8/1/14</i></u> (seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 336.8652924 North (km) 3205.689760		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 28/58/07.88 Longitude (DD/MM/SS) -82/40/27.35	
3. Governmental Facility Code: O	4. Facility Status Code: C	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4911
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: C. Wayne Toms
2. Facility Contact Mailing Address... Organization/Firm: Duke Energy Florida, Inc. Street Address: 8564 West Venable Street City: Crystal River State: Florida Zip Code: 34428
3. Facility Contact Telephone Numbers: Telephone: (352) 464 – 7751 ext. Fax: () -
4. Facility Contact E-mail Address: cwayne.toms@duke-energy.com

Facility Primary Responsible Official

Complete if an “application responsible official” is identified in Section I that is not the facility “primary responsible official.”

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: () - ext. Fax: () -
4. Facility Primary Responsible Official E-mail Address:

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply following completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: <p style="text-align: center;">Applicable state and federal regulations are discussed in Section 4.0.</p>	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	A	No
PM₁₀	A	No
PM_{2.5}	A	No
NO_x	A	No
CO	A	No
SO₂	A	No
VOC	A	No
H₂SO₄ mist	A	No
Lead	B	No

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date: _____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date: _____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Appendix C <input type="checkbox"/> Previously Submitted, Date: _____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0
3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: Section 4.0
4. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

- | |
|--|
| 1. List of Exempt Emissions Units:
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility) |
|--|

Additional Requirements for Title V Air Operation Permit Applications

- | |
|---|
| 1. List of Insignificant Activities: (Required for initial/renewal applications only)
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (revision application) |
| 2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)
<input type="checkbox"/> Attached, Document ID: _____
<input checked="" type="checkbox"/> Not Applicable (revision application with no change in applicable requirements) |
| 3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing. |
| 4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)
<input type="checkbox"/> Attached, Document ID: _____
<input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed
<input checked="" type="checkbox"/> Not Applicable |
| 5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable |
| 6. Requested Changes to Current Title V Air Operation Permit:
<input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable |

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain or CAIR Program

1. Acid Rain Program Forms: Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)): <input checked="" type="checkbox"/> Attached, Document ID: Appendix D <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Not Applicable (not an Acid Rain source) Phase II NO _x Averaging Plan (DEP Form No. 62-210.900(1)(a)1.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Not Applicable New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Not Applicable
2. CAIR Part (DEP Form No. 62-210.900(1)(b)): <input checked="" type="checkbox"/> Attached, Document ID: Appendix E <input type="checkbox"/> Previously Submitted, Date: _____ <input type="checkbox"/> Not Applicable (not a CAIR source)

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

Section [1] of [7]

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)
- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Four Mitsubishi 501GAC CTs with HRSG

3. Emissions Unit Identification Number: **CCC-1A, -1B, -2A and -2B**

4. Emissions Unit Status Code: C	5. Commence Construction Date: 2016	6. Initial Startup Date: 2018	7. Emissions Unit Major Group SIC Code: 49
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8. Federal Program Applicability: (Check all that apply)

- Acid Rain Unit
- CAIR Unit

9. Package Unit:
Manufacturer: **MPS**
Model Number: **MPS 501G**

10. Generator Nameplate Rating: **270 MW**

11. Emissions Unit Comment:

The four CTs will be configured in a two-on-one configuration with each CT having a nominal rating of 270 MW, and the steam turbine having a nominal rating of 280 MW. Each power block will have a nominal rating of 820 MW.

EMISSIONS UNIT INFORMATION

Section [1] of [7]

Emissions Unit Control Equipment/Method: Control 1 of 2

1. Control Equipment/Method Description: Selective catalytic reduction (SCR)
2. Control Device or Method Code: 139

Emissions Unit Control Equipment/Method: Control 2 of 2

1. Control Equipment/Method Description: Low NO_x burners
2. Control Device or Method Code: 205

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [1] of [7]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:
2. Maximum Production Rate:
3. Maximum Heat Input Rate: See Appendix B
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 52 weeks/year 7 days/week 8,760 hours/year
6. Operating Capacity/Schedule Comment: See Appendix B for details.

EMISSIONS UNIT INFORMATION

Section [1] of [7]

C. EMISSION POINT (STACK/VENT) INFORMATION**(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: 001		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable			
5. Discharge Type Code: V	6. Stack Height: 180 feet	7. Exit Diameter: 22 feet	
8. Exit Temperature: See Appendix B °F	9. Actual Volumetric Flow Rate: See Appendix B acfm	10. Water Vapor: See Appendix B %	
11. Maximum Dry Standard Flow Rate: See Appendix B dscfm		12. Nonstack Emission Point Height: See Appendix B feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 336.8232017 North (km): 3205.6260506		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS): 28/58/05.79 Longitude (DD/MM/SS): -82/40/28.88	
15. Emission Point Comment: See Appendix B for details of the proposed emissions units.			

EMISSIONS UNIT INFORMATION

Section [1] of [7]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): Natural gas		
2. Source Classification Code (SCC): 20100201		3. SCC Units: Million Cubic Feet
4. Maximum Hourly Rate: See Appendix B	5. Maximum Annual Rate: See Appendix B	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,033
10. Segment Comment: See Appendix B for details of the proposed emissions units.		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [1] of [7]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	Pipeline-quality natural gas		WP
PM₁₀	Pipeline-quality natural gas		WP
PM_{2.5}	Pipeline-quality natural gas		WP
NO_x	139	205	EL
CO	Good combustion		WP
SO₂	Pipeline-quality natural gas		WP
VOC	Good combustion		WP
H₂SO₄ mist	Pipeline-quality natural gas		WP
Lead			NS
Mercury compounds (H114)			NS

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: See Appendix B		7. Emissions Method Code: See App. B	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emissions calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM₁₀		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: See Appendix B		7. Emissions Method Code: See App. B	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emission calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM_{2.5}		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: See Appendix B		7. Emissions Method Code: See App. B	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emission calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ **Not Applicable**

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: NSPS Subpart KKKK, Table 1		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input checked="" type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emission calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: RULE – NSPS Subpart KKKK, Table 1	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 15 ppmvd @ 15% O₂ (Load ≥ 75%)	4. Equivalent Allowable Emissions: See App. B lb/hour See App. B tons/year
5. Method of Compliance: CEMS (30-unit operating day rolling average)	
6. Allowable Emissions Comment (Description of Operating Method): Allowable emissions are based on the emission unit operating at or above 75% of base load.	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: RULE – NSPS Subpart KKKK, Table 1	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 96 ppmvd @ 15% O₂ (Load < 75%)	4. Equivalent Allowable Emissions: See App. B lb/hour See App. B tons/year
5. Method of Compliance: CEMS (30-unit operating day rolling average)	
6. Allowable Emissions Comment (Description of Operating Method): Allowable emissions are based on the emission unit operating below 75% of base load.	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: See Appendix B		7. Emissions Method Code: See App. B	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emission calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: SO₂		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: See Appendix B		7. Emissions Method Code: See App. B	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emission calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: VOC		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: See Appendix B		7. Emissions Method Code: See App. B	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emission calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: H₂SO₄ mist		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: See Appendix B		7. Emissions Method Code: See App. B	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emission calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: Lead		2. Total Percent Efficiency of Control: See Appendix B	
3. Potential Emissions: See Appendix B lb/hour See Appendix B tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Appendix B Reference: See Appendix B		7. Emissions Method Code: See App. B	
8.a. Baseline Actual Emissions (if required): See Appendix B tons/year		8.b. Baseline 24-month Period: From: See App. B To: See App. B	
9.a. Projected Actual Emissions (if required): See Appendix B tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed emission calculations for proposed emissions units.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [1] of [7]

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment: DEF is requesting that only an initial VE test be required for the CT/HRSGs.	

Visible Emissions Limitation: Visible Emissions Limitation __ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [7]

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 1

1. Parameter Code: EM	2. Pollutant(s): NO_x
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 1.0 <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [1] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)**Additional Requirements for Air Construction Permit Applications**

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

Section [2] of [7]

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Auxiliary boiler

3. Emissions Unit Identification Number: **AUX**

4. Emissions Unit Status Code: C	5. Commence Construction Date: 2016	6. Initial Startup Date: 2018	7. Emissions Unit Major Group SIC Code: 49
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8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment:

216.2 MMBtu/hr auxiliary boiler

EMISSIONS UNIT INFORMATION

Section [2] of [7]

Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description: Low NO_x burners
2. Control Device or Method Code: 205

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [2] of [7]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:
2. Maximum Production Rate:
3. Maximum Heat Input Rate: 216.2 million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 52 weeks/year 7 days/week 2,000 hours/year
6. Operating Capacity/Schedule Comment:

EMISSIONS UNIT INFORMATION

Section [2] of [7]

C. EMISSION POINT (STACK/VENT) INFORMATION**(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: 028		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable			
5. Discharge Type Code: V	6. Stack Height: 50 feet	7. Exit Diameter: 5 feet	
8. Exit Temperature: 300 °F	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 336.9273348 North (km): 3205.591192		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) 28/58/04.70 Longitude (DD/MM/SS) -82/40/25.016	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

Section [2] of [7]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): Natural gas		
2. Source Classification Code (SCC): 20100201		3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: See Appendix B	5. Maximum Annual Rate: See Appendix B	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,033
10. Segment Comment: See Appendix B for details of the proposed emissions units.		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [2] of [7]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NO_x	205		WP
CO	Good combustion		WP

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 21.19 lb/hour		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.098 lb/MMBtu Reference: AP-42, Table 1.4-1		7. Emissions Method Code: 3	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 17.81 lb/hour		17.8 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.0824 lb/MMBtu Reference: AP-42, Table 1.4-1			7. Emissions Method Code: 3
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [2] of [7]

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation __ of ____ **Not Applicable**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation __ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [2] of [7]

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___ **Not Applicable**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [2] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 1.0 <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [2] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: <input checked="" type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment

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EMISSIONS UNIT INFORMATION

Section [3] of [7]

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Emergency Generator

3. Emissions Unit Identification Number: **EG**

4. Emissions Unit Status Code: C	5. Commence Construction Date: 2016	6. Initial Startup Date: 2018	7. Emissions Unit Major Group SIC Code: 49
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8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

9. Package Unit:
Manufacturer: **Cummins (or equivalent)** Model Number: **DQGAB (or equivalent)**

10. Generator Nameplate Rating: **1.5 MW**

11. Emissions Unit Comment:

Two 1,500-kW emergency generators, one generator for each power block.

EMISSIONS UNIT INFORMATION

Section [3] of [7]

Emissions Unit Control Equipment/Method: Control ___ of ___ *Not Applicable*

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [3] of [7]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 200.0 gallons per hour
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 500 hours/year
6. Operating Capacity/Schedule Comment: Generators will be operated for emergency purposes only. Maintenance and testing will not exceed 100 hours per year. Unit is allowed to run continuously during emergency events. Potential emissions are based on 500 hours per year in accordance with EPA guidance.

EMISSIONS UNIT INFORMATION

Section [3] of [7]

C. EMISSION POINT (STACK/VENT) INFORMATION**(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: 041		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable			
5. Discharge Type Code: V	6. Stack Height: 10 feet		7. Exit Diameter: 0.5 feet
8. Exit Temperature: 835 °F	9. Actual Volumetric Flow Rate: 11,000 acfm		10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 336.8833362 North (km): 3205.4930491		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) 28/58/01.500 Longitude (DD/MM/SS) -82/40/26.589	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

Section [3] of [7]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): Ultra low-sulfur diesel (ULSD)		
2. Source Classification Code (SCC): 20100102		3. SCC Units: 1,000 gallons
4. Maximum Hourly Rate: See Appendix B	5. Maximum Annual Rate: See Appendix B	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 130
10. Segment Comment: See Appendix B for details of the proposed emissions units.		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [3] of [7]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NO_x			EL
CO			EL
PM/PM₁₀			EL
VOC			EL

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 16.35 lb/hour		8.17 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 3.34 g/hp-hr (NO_x EF is based on 70% of NMHC+NO_x EF) Reference: NSPS, Subpart III			7. Emissions Method Code: 0
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 3.34 g/hp-hr (NO_x EF is based on 70% of NMHC+NO_x EF)	4. Equivalent Allowable Emissions: 16.35 lb/hour 8.17 tons/year
5. Method of Compliance: Manufacturer's certification	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 12.77 lb/hour		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 2.6 g/hp-hr Reference: NSPS, Subpart IIII		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 2.6 g/hp-hr	4. Equivalent Allowable Emissions: 12.77 lb/hour 6.39 tons/year
5. Method of Compliance: Manufacturer's certification	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM/PM₁₀		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 0.73 lb/hour		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.15 g/hp-hr Reference: NSPS, Subpart III		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.15 g/hp-hr	4. Equivalent Allowable Emissions: 0.73 lb/hour 0.37 tons/year
5. Method of Compliance: Manufacturer's certification	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: VOC		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 7.00 lb/hour		3.50 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 1.43 g/hp-hr (VOC EF is based on 70% of NMHC+NOx EF) Reference: NSPS, Subpart III			7. Emissions Method Code: 0
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 1.43 g/hp-hr (VOC EF is based on 70% of NMHC+NO_x EF)	4. Equivalent Allowable Emissions: 7.00 lb/hour 3.50 tons/year
5. Method of Compliance: Manufacturer's certification	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [3] of [7]

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation __ of ____ **Not Applicable**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation __ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [3] of [7]

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___ **Not Applicable**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [3] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 1.0 <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [3] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

- | | | |
|--|---|--|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

Additional Requirements for Title V Air Operation Permit Applications

- | | | |
|--|---|--|
| 1. Identification of Applicable Requirements: | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Compliance Assurance Monitoring: | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation: | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

Additional Requirements Comment

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EMISSIONS UNIT INFORMATION

Section [4] of [7]

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Emergency firewater pump

3. Emissions Unit Identification Number: **FWP**

4. Emissions Unit Status Code: C	5. Commence Construction Date: 2016	6. Initial Startup Date: 2018	7. Emissions Unit Major Group SIC Code: 49
--	---	---	--

8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

9. Package Unit:
Manufacturer: **Cummins (or equivalent)** Model Number: **CFP15E-F30 (or equivalent)**

10. Generator Nameplate Rating: **0.38 MW**

11. Emissions Unit Comment:

575-hp emergency firewater pump

EMISSIONS UNIT INFORMATION

Section [4] of [7]

Emissions Unit Control Equipment/Method: Control ___ of ___ *Not Applicable*

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [4] of [7]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 14.0 gallons per hour
2. Maximum Production Rate:
3. Maximum Heat Input Rate: million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 500 hours/year
6. Operating Capacity/Schedule Comment: Firewater pump will be operated for emergency purposes only. Maintenance and testing will not exceed 100 hours per year. Unit is allowed to run continuously during emergency events. Potential emissions are based on 500 hours per year in accordance with EPA guidance.

EMISSIONS UNIT INFORMATION

Section [4] of [7]

C. EMISSION POINT (STACK/VENT) INFORMATION**(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: 017		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable			
5. Discharge Type Code: V	6. Stack Height: 10 feet	7. Exit Diameter: 0.5 feet	
8. Exit Temperature: 895 °F	9. Actual Volumetric Flow Rate: 3,164 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 337.0770342 North (km): 3205.6426034		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) 28/58/06.447 Longitude (DD/MM/SS) -82/40/19.513	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

Section [4] of [7]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): ULSD		
2. Source Classification Code (SCC): 20100102		3. SCC Units: 1,000 gallons
4. Maximum Hourly Rate: See Appendix B	5. Maximum Annual Rate: See Appendix B	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 130
10. Segment Comment: See Appendix B for details of the proposed emissions units.		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [4] of [7]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NO _x			EL
CO			EL
PM/PM ₁₀			EL
VOC			EL

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2.66 lb/hour		0.67 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 2.10 g/hp-hr (NO_x EF is based on 70% of NMHC+NO_x EF) Reference: NSPS, Subpart III			7. Emissions Method Code: 0
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 2.10 g/hp-hr (NO_x EF is based on 70% of NMHC+NO_x EF)	4. Equivalent Allowable Emissions: 2.66 lb/hour 0.67 tons/year
5. Method of Compliance: Manufacturer's certification	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 3.30 lb/hour		0.82 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 2.6 g/hp-hr Reference: NSPS, Subpart III			7. Emissions Method Code: 0
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 2.6 g/hp-hr	4. Equivalent Allowable Emissions: 3.30 lb/hour 0.82 tons/year
5. Method of Compliance: Manufacturer's certification	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM/PM₁₀		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 0.19 lb/hour		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.15 g/hp-hr Reference: NSPS, Subpart IIII		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.15 g/hp-hr	4. Equivalent Allowable Emissions: 0.19 lb/hour 0.05 tons/year
5. Method of Compliance: Manufacturer's certification	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: VOC		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 1.14 lb/hour		0.29 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.90 g/hp-hr (VOC EF is based on 30% of NMHC+NO_x EF) Reference: NSPS, Subpart III		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.90 g/hp-hr (VOC EF is based on 30% of NMHC+NO_x EF)	4. Equivalent Allowable Emissions: 1.14 lb/hour 0.29 tons/year
5. Method of Compliance: Manufacturer's certification	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [4] of [7]

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation __ of ____ **Not Applicable**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation __ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [4] of [7]

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___ **Not Applicable**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [4] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 1.0 <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [4] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment

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EMISSIONS UNIT INFORMATION

Section [5] of [7]

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Fuel Gas Dew Point Heater

3. Emissions Unit Identification Number: **FGH**

4. Emissions Unit Status Code:

C

5. Commence Construction Date:

2016

6. Initial Startup Date:

2018

7. Emissions Unit Major Group SIC Code:

49

8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

9. Package Unit:

Manufacturer:

Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Two 11.2-MMBtu/hr natural gas fired fuel gas dew point heaters. One heater per power block.

EMISSIONS UNIT INFORMATION

Section [5] of [7]

Emissions Unit Control Equipment/Method: Control ___ of ___ *Not Applicable*

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:

2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [5] of [7]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:
2. Maximum Production Rate:
3. Maximum Heat Input Rate: 11.20 million Btu/hr (HHV)
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 52 weeks/year 7 days/week 8,760 hours/year
6. Operating Capacity/Schedule Comment:

EMISSIONS UNIT INFORMATION

Section [5] of [7]

C. EMISSION POINT (STACK/VENT) INFORMATION**(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: 098		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable			
5. Discharge Type Code: V	6. Stack Height: 14 feet - 5 inches		7. Exit Diameter: 1.33 feet
8. Exit Temperature: 410 °F	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 336.8547853 North (km): 3205.6243101		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) 28/58/05.750 Longitude (DD/MM/SS) -82/40/27.712	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

Section [5] of [7]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): Natural gas		
2. Source Classification Code (SCC): 20100201		3. SCC Units: Million cubic feet burned
4. Maximum Hourly Rate: See Appendix B	5. Maximum Annual Rate: See Appendix B	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,033
10. Segment Comment: See Appendix B for details of the proposed emissions units.		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [5] of [7]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
NO_x	Good combustion		WP
CO	Good combustion		WP

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 1.08 lb/hour		9.5 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 100 lb/MMcf Reference: AP-42. Table 1.4-1			7. Emissions Method Code: 3
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ___ of ___ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 0.91 lb/hour		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 84.0 lb/MMcf Reference: AP-42, Table 1.4-1		7. Emissions Method Code: 3	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ___ of ___ *Not Applicable*

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [5] of [7]

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation __ of ____ **Not Applicable**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation __ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [5] of [7]

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___ **Not Applicable**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [5] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 1.0 <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [5] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

Section [6] of [7]

III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Cooling towers

3. Emissions Unit Identification Number: **CTWR**

4. Emissions Unit Status Code: C	5. Commence Construction Date: 2016	6. Initial Startup Date: 2018	7. Emissions Unit Major Group SIC Code: 49
--	---	---	--

8. Federal Program Applicability: (Check all that apply)

- Acid Rain Unit
- CAIR Unit

9. Package Unit:
Manufacturer:

Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Two 16-cell mechanical draft cooling towers. One cooling tower per power block.

EMISSIONS UNIT INFORMATION

Section [6] of [7]

Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description: Mist eliminator – high velocity
2. Control Device or Method Code: 014

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [6] of [7]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate:	
4. Maximum Incineration Rate: pounds/hr	
	tons/day
5. Requested Maximum Operating Schedule:	
	24 hours/day
	52 weeks/year
	7 days/week
	8,760 hours/year
6. Operating Capacity/Schedule Comment:	

EMISSIONS UNIT INFORMATION

Section [6] of [7]

C. EMISSION POINT (STACK/VENT) INFORMATION**(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: 007		2. Emission Point Type Code: 4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable			
5. Discharge Type Code: V		6. Stack Height: 58 feet	
		7. Exit Diameter: Not applicable	
8. Exit Temperature: Not applicable		9. Actual Volumetric Flow Rate: acfm	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 336.8652924 North (km): 3205.6897606		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) 28/58/07.881 Longitude (DD/MM/SS) -82/40/27.359	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

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D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment __ of __ *Not Applicable*

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

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E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/PM₁₀	014		NS

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 30.1 lb/hour		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.0005 % Drift Loss Rate Reference:		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ___ of ___ **Not Applicable**

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM₁₀		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 0.20 lb/hour		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.0005 % Drift Loss Rate Reference:		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ___ of ___ **Not Applicable**

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

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G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation __ of ____ **Not Applicable**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation __ of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

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H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___ **Not Applicable**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [6] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 1.0 <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [6] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="checked" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="checked" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="checked" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="checked" type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="checked" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="checked" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="checked" type="checkbox"/> Not Applicable

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

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III. EMISSIONS UNIT INFORMATION

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

Inlet chiller cooling towers

3. Emissions Unit Identification Number: **CHLR CTWR**

4. Emissions Unit Status Code: C	5. Commence Construction Date: 2016	6. Initial Startup Date: 2018	7. Emissions Unit Major Group SIC Code: 49
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8. Federal Program Applicability: (Check all that apply)

- Acid Rain Unit
- CAIR Unit

9. Package Unit:
Manufacturer:

Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Two six-cell mechanical draft cooling towers. One inlet chiller cooling tower per power block.

EMISSIONS UNIT INFORMATION

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Emissions Unit Control Equipment/Method: Control 1 of 1

1. Control Equipment/Method Description: Mist Eliminator – High Velocity
2. Control Device or Method Code: 014

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

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B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:		
2. Maximum Production Rate:		
3. Maximum Heat Input Rate:		
4. Maximum Incineration Rate: pounds/hr tons/day		
5. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year
6. Operating Capacity/Schedule Comment:		

EMISSIONS UNIT INFORMATION

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C. EMISSION POINT (STACK/VENT) INFORMATION**(Optional for unregulated emissions units.)****Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: 101		2. Emission Point Type Code: 4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: Not applicable			
5. Discharge Type Code: V		6. Stack Height: 43 feet	
		7. Exit Diameter: Not applicable	
8. Exit Temperature: Not applicable		9. Actual Volumetric Flow Rate: acfm	
		10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 336.920479 North (km): 3205.7280786		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) 28/58/09.151 Longitude (DD/MM/SS) -82/40/25.340	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

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D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment __ of __ *Not Applicable*

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

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E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/PM₁₀	014		NS

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 0.1 lb/hour		0.4 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.0005 % Drift Loss Rate Reference:			7. Emissions Method Code: 5
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ___ of ___ **Not Applicable**

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM₁₀		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 0.0 lb/hour		0.2 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.0005 % Drift Loss Rate Reference:			7. Emissions Method Code: 5
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Appendix B for detailed calculations			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ___ of ___ **Not Applicable**

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

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H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___ **Not Applicable**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

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I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 2.0 <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: Section 1.0 <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ _____ <input checked="" type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [7] of [7]

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)**Additional Requirements for Air Construction Permit Applications**

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment

--

APPENDIX B

EMISSIONS RATE CALCULATIONS

Appendix B. Emissions Rate Calculations—List of Tables

Table	Description
B-1	Netting Analysis Summary
B-2	NO _x Baseline Emissions CREC Units 1 and 2
B-3	SO ₂ Baseline Emissions CREC Units 1 and 2
B-4	CO ₂ e Baseline Emissions CREC Units 1 and 2
B-5	Methane and N ₂ O Baseline Emissions CREC Units 1 and 2
B-6	CO Baseline Emissions CREC Units 1 and 2
B-7	Baseline Emissions CREC Unit 1
B-8	Baseline Emissions CREC Unit 2
B-9	Sulfuric Acid Mist Baseline Emissions CREC Units 1 and 2
B-10	Mercury Baseline Emissions CREC Units 1 and 2
B-11	Operating Scenarios—Two 2-on-1 CT/HRSG Units Operating in Combined Cycle Mode
B-12	CTG/HRSG (Combined Cycle Mode) Hourly Emissions Rates (Per CTG/HRSG) Criteria and Selected Noncriteria Air Pollutants
B-13	CT/HRSG (Combined Cycle Mode) Emissions Rates for Four CT/HRSG Units Operating in CC Mode - Annual Profile 1 Criteria Air Pollutants and Sulfuric Acid Mist
B-14	CT/HRSG (Combined Cycle Mode) Emissions Rates for Four CT/HRSG Units Operating in CC Mode - Annual Profile 2 Criteria Air Pollutants and Sulfuric Acid Mist
B-15	CT/HRSG Emissions Rates For Four CT/HRSG Units Operating in CC Mode - Annual Profile 3: Criteria Air Pollutants and Sulfuric Acid Mist
B-16	Maximum CT and Duct Burner HAP Emissions: Four CT/HRSG Units in Combined Cycle Mode Firing Natural Gas
B-17	Summary of Facility Annual Pollutant Emissions Rates for PSD Netting Analysis
B-18	Summary of Facility Annual Pollutant Emissions Rates (Including Startup and Shutdown Emissions for All Pollutants)
B-19	Natural Gas Fuel Flow Rates (Combined Cycle Mode)
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B-29	Cooling Tower PM ₁₀ Fraction—Inlet Chiller Cooling Towers

Table B-1. Netting Analysis Summary

Pollutant		Potential Emissions§ (tpy)	Net Emissions Increase/ (Decrease)‡ (tpy)	PSD Significant Level (tpy)	Trigger PSD?
NO _x	6,459	2,712	(3,747)	40	No
SO ₂	29,168	271	(28,897)	40	No
CO ₂ e	3,872,621	5,639,174	1,766,553	—	No
CO	3,774	626	(3,148)	100	No
VOC	54	68	14	40	No
PM§	840	279	(562)	25	No
PM ₁₀	2,092	326	(1,766)	15	No
PM _{2.5}	1,765	326	(1,439)	10	No
SAM	89	40	(49)	7	No
Lead¥	0.38	Neg.	(0.38)	0.6	No
Mercury¥	0.07	Neg.	(0.07)	0.1	No

*Based on highest actual 24-month annual average over past five years starting August 2009.

†Based on Mitsubishi 501G operating 8,760 hr/yr; maximum emissions based on all scenarios. NO_x and SO₂ potential emissions include SUSD emissions. All other pollutants do not include startup/shutdown emissions for PSD netting analysis only.

‡Potential emissions minus baseline emissions.

§SPM emissions include filterable emission only.

||PM₁₀ and PM_{2.5} emissions include filterable and condensable emissions.

¥Lead and mercury potential emissions are considered to be negligible.

Sources: Clean Air Markets, Acid Rain Program, 2014.
 FDEP Annual Operating Reports, 2009 through 2013.
 DEF, 2014.
 ECT, 2014.

Table B-2.NO_x Baseline Emissions CREC Units 1 and 2

	Aug 2009 - Jul 2011	Sept 2009 - Aug 2011	Oct 2009 - Sept 2011	Nov 2009 - Oct 2011	Dec 2009 - Nov 2011
CREC Unit 1	3,173	3,145	3,149	3,040	3,031
CREC Unit 2	<u>3,286</u>	<u>3,284</u>	<u>3,300</u>	<u>3,270</u>	<u>3,266</u>
TOTAL	6,459	6,429	6,448	6,310	6,297

Note: Maximum annual NO_x emissions (tpy) based on 24-month rolling annual average.
 Five highest 24-month annual averages shown within the 5-year period
 immediately preceding the date a complete permit application is
 received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.
 DEF, 2014.
 ECT, 2014.

Table B-3. SO₂ Baseline Emissions CREC Units 1 and 2

	Aug 2009 - Jul 2011	Sept 2009 - Aug 2011	Oct 2009 - Sept 2011	Nov 2009 - Oct 2011	Dec 2009 - Nov 2011
CREC Unit 1	13,054	12,942	12,994	12,576	12,453
CREC Unit 2	<u>16,114</u>	<u>16,084</u>	<u>15,997</u>	<u>15,607</u>	<u>15,486</u>
TOTAL	29,168	29,026	28,991	28,183	27,940

Note: Maximum annual NO_x emissions (tpy) based on 24-month rolling annual average. Five highest 24-month annual averages shown within the 5-year period immediately preceding the date a complete permit application is received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.
DEF, 2014.
ECT, 2014.

Table B-4. CO₂e Baseline Emissions CREC Units 1 and 2

	Emissions (tpy)				
	Aug 2009 - Jul 2011	Sept 2009 - Aug 2011	Oct 2009 - Sept 2011	Nov 2009 - Oct 2011	Dec 2009 - Nov 2011
CREC Unit 1					
CO ₂	1,721,686	1,707,465	1,714,671	1,662,990	1,644,161
Methane	204	202	203	197	194
N ₂ O	<u>30</u>	<u>29</u>	<u>29</u>	<u>29</u>	<u>28</u>
CO ₂ e	1,721,920	1,707,696	1,714,903	1,663,216	1,644,384
CREC Unit 2					
CO ₂	2,150,410	2,145,785	2,140,997	2,096,704	2,077,662
Methane	254	254	253	248	246
N ₂ O	<u>37</u>	<u>37</u>	<u>37</u>	<u>36</u>	<u>36</u>
CO ₂ e	2,150,702	2,146,075	2,141,287	2,096,988	2,077,943
Total CO₂e (CREC Units 1 and 2)	3,872,621	3,853,771	3,856,190	3,760,203	3,722,326

Note: Maximum annual CO₂ emissions (tpy) based on 24-month rolling annual average.

Five highest 24-month annual averages shown within the 5-year period immediately preceding the date a complete permit application is received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.
DEF, ECT; 2014.

Table B-5. Methane and N₂O Baseline Emissions CREC Units 1 and 2

	Emissions				
	Aug 2009 - Jul 2011	Sept 2009 - Aug 2011	Oct 2009 - Sept 2011	Nov 2009 - Oct 2011	Dec 2009 - Nov 2011
CREC Unit 1					
Heat input (MMBtu/yr)	16,780,598	16,641,990	16,712,214	16,208,506	16,024,977
Methane (tpy)	204	202	203	197	194
N ₂ O (tpy)	30	29	29	29	28
CREC Unit 2					
Heat input (MMBtu/yr)	20,959,203	20,914,114	20,867,438	20,435,741	20,250,149
Methane	254	254	253	248	246
N ₂ O	37	37	37	36	36

Note: Methane and N₂O emissions based on 1.1 E-02 kg/MMBtu and 1.6E-03 kg/MMBtu, respectively.
 Ref: 40 CFR 98, Subpart C, Table C-2.
 Five highest 24-month annual averages shown within the 5-year period immediately preceding the date a complete permit application is received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.
 DEF, 2014.
 ECT, 2014.

Table B-6. CO Baseline Emissions CREC Units 1 and 2

	Baseline Emissions				
	Aug 2009 - Jul 2011	Sept 2009 - Aug 2011	Oct 2009 - Sept 2011	Nov 2009 - Oct 2011	Dec 2009 - Nov 2011
CREC Unit 1					
Heat input (MMBtu/yr)	16,780,598	16,641,990	16,712,214	16,208,506	16,024,977
CO EF (lb/MMBtu)	0.20	0.20	0.20	0.20	0.20
CO (tpy)	1,678	1,664	1,671	1,621	1,602
CREC Unit 2					
Heat input (MMBtu/yr)	20,959,203	20,914,114	20,867,438	20,435,741	20,250,149
CO EF (lb/MMBtu)	0.20	0.20	0.20	0.20	0.20
CO (tpy)	2,096	2,091	2,087	2,044	2,025

Note: CO emission factor based on average of similar units retrofitted with LNBs.

Five highest 24-month annual averages shown within the 5-year period immediately preceding the date a complete permit application is received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.
DEF, 2014.
ECT, 2014.

Table B-7. Baseline Emissions CREC Unit 1

	Annual Emissions (tpy)					Baseline Emissions (tpy)
	2013	2012	2011	2010	2009	
VOC	15.6	14.9	14.7	23.3	24.4	23.9
PM	414.0	447.4	402.0	429.9	454.5	442.2
PM ₁₀	277.3	274.9	269.3	288.0	304.5	296.2
PM _{2.5}	120.0	119.0	116.5	101.3	106.5	103.9
CPM	421.6	426.6	372.9	674.5	673.5	674.0
Lead	0.11	0.10	0.10	0.16	0.17	0.17
Mercury	0.02	0.02	0.02	0.03	0.03	0.03

Sources: FDEP Annual Operating Reports, 2009 through 2013.
 AP-42, Section 1.1 and 1.3
 ECT, 2014.

Table B-8. Baseline Emissions CREC Unit 2

	Annual Emissions (tpy)					Baseline Emissions (tpy)
	2013	2012	2011	2010	2009	
VOC	22.9	17.8	19.8	29.1	31.5	30.3
PM	135.2	490.6	264.8	381.0	414.8	397.9
PM ₁₀	90.5	159.5	177.3	255.3	277.8	266.6
PM _{2.5}	39.2	69.0	76.7	126.7	137.1	131.9
CPM	622.3	521.5	502.7	843.9	867.4	855.7
Lead	0.16	0.12	0.14	0.20	0.22	0.21
Mercury	0.03	0.02	0.03	0.04	0.04	0.04

Sources: FDEP Annual Operating Reports, 2009 through 2013.
 AP-42, Section 1.1 and 1.3
 ECT, 2014.

Table B-9. Sulfuric Acid Mist Baseline Emissions CREC Units 1 and 2

<p><u>Estimation Procedure:</u></p> $E = K \times F1 \times F2 \times E2$ <p>E = H₂SO₄ mist emission rate, lb/yr K = conversion factor = 3,063 F1 = fuel impact factor = 0.008 (eastern bituminous coal, PC boiler) F2 = technology factor = 0.5 (air heater) x 0.5 (cold-side ESP) = 0.25 E2 = SO₂ emissions from CEMS; tons/yr</p> <p>Source: An Updated Method for Estimating Total Sulfuric Acid Emissions from Stationary Power Plants, Southern Company, Revised March 2003.</p>

	Aug 2009 - Jul 2011	Sept 2009 - Aug 2011	Oct 2009 - Sept 2011	Nov 2009 - Oct 2011	Dec 2009 - Nov 2011
<u>CREC Unit 1</u>					
SO ₂ emissions (tpy)	13,054	12,942	12,994	12,576	12,453
Fuel impact factor	0.008	0.008	0.008	0.008	0.008
Technology impact factor	0.25	0.25	0.25	0.25	0.25
SAM emissions (tpy)	40	40	40	39	38
<u>CREC Unit 2</u>					
SO ₂ emissions (tpy)	16,114	16,084	15,997	15,607	15,486
Fuel impact factor	0.008	0.008	0.008	0.008	0.008
Technology impact factor	0.25	0.25	0.25	0.25	0.25
SAM emissions (tpy)	49	49	49	48	47

Sources: An Updated Method for Estimating Total Sulfuric Acid Emissions from Stationary Power Plants; Revised March 2003.
DEF, 2014.
ECT, 2014.

Table B-10. Mercury Baseline Emissions CREC Units 1 and 2

	2013	2012	2011	2010	2009	Baseline Emissions (tpy)
<u>CREC Unit 1</u>						
Coal combusted (tpy)	518,139	495,551	487,432	774,057	813,538	
Fuel oil combusted (1,000 gal/yr)	321	315	473.55	241.878	326.172	
Mercury EF - coal (lb/ton)	8.3E-05	8.3E-05	8.3E-05	8.3E-05	8.3E-05	
Mercury EF - fuel oil (lb/ton)	1.13E-04	1.13E-04	1.13E-04	1.13E-04	1.13E-04	
Mercury emissions - coal (tpy)	0.022	0.021	0.020	0.032	0.034	
Mercury emissions - fuel oil (tpy)	1.8E-05	1.8E-05	2.7E-05	1.4E-05	1.8E-05	
Mercury emissions - total	0.022	0.021	0.020	0.032	0.034	0.033
<u>CREC Unit 2</u>						
Coal combusted (tpy)	764,033	592,686	660,526	968,132	1,047,981	
Fuel oil combusted (1,000 gal/yr)	217	271	240.11	172.28	254.772	
Mercury EF - coal (lb/ton)	8.3E-05	8.3E-05	8.3E-05	8.3E-05	8.3E-05	
Mercury EF - fuel oil (lb/ton)	1.13E-04	1.13E-04	1.13E-04	1.13E-04	1.13E-04	
Mercury emissions - coal (tpy)	0.032	0.025	0.027	0.040	0.043	
Mercury emissions - fuel oil (tpy)	1.2E-05	1.5E-05	1.4E-05	9.7E-06	1.4E-05	
Mercury emissions - total	0.032	0.025	0.027	0.040	0.044	0.042

Sources: FDEP Annual Operating Reports, 2009-2014.
 DEF, 2014.
 ECT; 2014.

Table B-11. Operating Scenarios—Two 2-on-1 CT/HRSO Units Operating in Combined Cycle Mode

Case	Mitsubishi Case	Ambient Temperature (°F)	CT/HRSO Percent Load			Annual Profile #1 (hr/yr)	Annual Profile #2 (hr/yr)	Annual Profile #3 (hr/yr)	Inlet Air Evaporative Cooling	Duct Burner Firing
			100	75*	50*					
<u>Winter</u>										
1	9	17.2	x				1,000	1,000		
2	13	17.2	x							x
3	5	17.2		x						
4	1	17.2			x					
<u>Annual Average</u>										
5	10	68.6	x			4,760	3,760	2,807		
6	14	68.6	x			4,000	2,000	2,000		x
7	6	68.6		x						
8	2	68.6			x					x
<u>Summer</u>										
9	11	91.4	x							
10	15	91.4	x				2,000	2,000		x
11	-	91.4	x						x	
12	21	91.4	x						x	x
13	14	91.4		x						
14	19	91.4			x					
Startups										
Cold										
Warm										
Hot										
Shutdowns										
Downtime										
Total										
						8,760	8,760	8,760		

*At low operating loads CT/HRSO units can be operated interchangeably.

Sources: Burns and McDonnell Combined Cycle Systems Emissions Data, March 17, 2014.
 DEF, 2014.
 ECT, 2014.

Table B-12. CTG/HRSG (Combined Cycle Mode) Hourly Emissions Rates (Per CTG/HRSG) Criteria and Selected Noncriteria Air Pollutants

Temperature (°F)	Case	Load (%)	PM		PM ₁₀ /PM _{2.5} *		SO ₂ †		H ₂ SO ₄ ‡		Lead§	
			lb/hr	g/sec	lb/hr	g/sec	lb/hr	g/sec	lb/hr	g/sec	lb/hr	g/sec
17.2	1	100	7.9	1.00	18.7	2.36	16.30	2.05	2.43	0.307	0.0014	0.00018
	2	100	10.5	1.32	22.2	2.80	17.70	2.23	2.64	0.333	0.0015	0.00019
	3	75	6.5	0.82	14.9	1.88	12.80	1.61	1.91	0.241	0.0011	0.00014
	4	50	4.9	0.62	11.4	1.44	9.80	1.23	1.46	0.184	0.0008	0.00011
68.6	5	100	7.0	0.88	16.8	2.12	14.80	1.86	2.21	0.278	0.0013	0.00016
	6	100	9.6	1.21	20.3	2.56	16.20	2.04	2.42	0.305	0.0014	0.00018
	7	75	5.9	0.74	13.5	1.70	11.50	1.45	1.72	0.216	0.0010	0.00012
	8	50	4.5	0.57	10.4	1.31	8.90	1.12	1.33	0.167	0.0008	0.00010
91.4	9	100	6.6	0.83	15.8	1.99	13.90	1.75	2.08	0.261	0.0012	0.00015
	10	100	9.2	1.16	19.3	2.43	15.30	1.93	2.28	0.288	0.0013	0.00017
	11	100	7.3	0.92	16.5	2.08	15.50	1.95	2.31	0.292	0.0013	0.00017
	12	100	9.9	1.25	21.0	2.65	16.90	2.13	2.52	0.318	0.0014	0.00018
	13	75	5.6	0.71	12.8	1.61	11.00	1.39	1.64	0.207	0.0009	0.00012
	14	50	4.4	0.55	10.0	1.26	8.50	1.07	1.27	0.160	0.0007	0.00009
		Maximums	10.5	1.32	22.2	2.80	17.70	2.23	2.64	0.333	0.0015	0.00019

		NO _x		CO		VOC‡					
		ppmvd	lb/hr	g/sec	ppmvd	lb/hr	g/sec				
17.2	1	100	15.0	157.5	19.84	4.0	25.6	3.22	0.8	2.9	0.37
	2	100	15.0	175.3	22.09	7.0	49.8	6.28	1.2	4.9	0.61
	3	75	15.0	123.7	15.59	10.0	50.2	6.33	0.9	2.6	0.33
	4	50	15.0	94.8	11.95	10.0	38.5	4.85	0.9	2.0	0.25
68.6	5	100	15.0	142.9	18.01	4.0	23.2	2.92	0.8	2.7	0.33
	6	100	15.0	163.9	20.66	7.0	46.6	5.87	1.2	4.6	0.57
	7	75	15.0	111.3	14.02	10.0	45.1	5.69	0.9	2.3	0.29
	8	50	15.0	86.2	10.86	10.0	35.0	4.41	0.9	1.8	0.23
91.4	9	100	15.0	134.3	16.92	4.0	21.8	2.75	0.8	2.5	0.31
	10	100	15.0	156.1	19.66	7.0	44.3	5.59	1.3	4.7	0.59
	11	100	15.0	146.0	18.39	4.0	23.7	2.99	0.8	2.7	0.34
	12	100	15.0	169.3	21.34	7.0	48.1	6.06	1.2	4.7	0.59
	13	75	15.0	106.0	13.36	10.0	43.0	5.42	0.9	2.2	0.28
	14	50	15.0	82.3	10.37	10.0	33.4	4.21	0.9	1.7	0.22
		Maximums	15.0	175.3	22.09	10.0	50.2	6.33	1.3	4.9	0.61

*Filterable and condensable PM assumes all SO₃ converts to (NH₄)₂SO₃ generated in the SCR.

†Based on a short-term natural gas sulfur content of 2.0 gr/100 scf; assumes all sulfur in the natural gas converts to SO₂.

‡Based on 5-percent conversion of fuel sulfur to SO₃ and 5-percent conversion of SO₂ to SO₃ in the SCR.

§Natural Gas Combustion, Table 1.4-2, AP-42, March 1998.

||NO_x concentration at 15-percent oxygen.

‡Nonmethane hydrocarbons (NMHC) expressed as methane.

Sources: Burns and McDonnell, 2014. ECT, 2014.

Table B-13. CT/HRSG (Combined Cycle Mode) Emissions Rates for Four CT/HRSG Units Operating in CC Mode - Annual Profile 1 Criteria Air Pollutants and Sulfuric Acid Mist

Source	Case	Annual Operations (hr/yr)	NO _x		CO		VOC		PM	
			lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CT/HRSG	5	4,760	571.7	1360.6	92.8	220.8	10.6	25.2	28.0	66.6
CT/HRSG	6	4,000	655.7	1311.5	186.3	372.5	18.2	36.5	38.4	76.8
	Totals	8,760	N/A	2,672.0	N/A	593.4	N/A	61.7	N/A	143.4

			PM ₁₀ /PM _{2.5}		SO ₂ *		H ₂ SO ₄ *†		Lead	
			lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CT/HRSG	5	4,760	67.2	159.9	59.2	140.9	8.84	21.0	0.005	0.012
CT/HRSG	6	4,000	81.2	162.4	64.8	129.6	9.67	19.3	0.006	0.011
	Totals	8,760	N/A	322.3	N/A	270.5	N/A	40.4	N/A	0.023

*Hourly/annual SO₂ and H₂SO₄ emissions rates based on annual natural gas sulfur content limit of 2.0 grains/100 scf.

†Based on 5-percent conversion of fuel sulfur to SO₃ and 5-percent conversion of SO₂ to SO₃ in the SCR.

Sources: DEF, 2014.
ECT, 2014.

Table B-14. CT/HRSG (Combined Cycle Mode) Emissions Rates for Four CT/HRSG Units Operating in CC Mode - Annual Profile 2 Criteria Air Pollutants and Sulfuric Acid Mist

Source	Case	Annual Operations (hr/yr)	NO _x		CO		VOC		PM	
			lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CT/HRSG	1	1,000	630.0	315.0	102.3	51.1	11.7	5.8	31.6	15.8
CT/HRSG	5	3,760	571.7	1074.7	92.8	174.5	10.6	19.9	28.0	52.6
CT/HRSG	6	2,000	655.7	655.7	186.3	186.3	18.2	18.2	38.4	38.4
CT/HRSG	10	2,000	624.3	624.3	177.3	177.3	18.8	18.8	36.8	36.8
	Totals	8,760	N/A	2,669.8	N/A	589.2	N/A	62.8	N/A	143.6
			PM ₁₀ /PM _{2.5}		SO ₂ *		H ₂ SO ₄ *†		Lead	
			lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CT/HRSG	1	1,000	74.8	37.4	65.2	32.6	9.73	4.9	0.006	0.003
CT/HRSG	5	3,760	67.2	126.3	59.2	111.3	8.84	16.6	0.005	0.010
CT/HRSG	6	2,000	81.2	81.2	64.8	64.8	9.67	9.7	0.006	0.006
CT/HRSG	10	2,000	77.2	77.2	61.2	61.2	9.14	9.1	0.005	0.005
	Totals	8,760	N/A	322.1	N/A	269.9	N/A	40.3	N/A	0.023

*Hourly/annual SO₂ and H₂SO₄ emissions rates based on annual natural gas sulfur content limit of 2.0 grains/100 scf.

†Based on 5-percent conversion of fuel sulfur to SO₃ and 5-percent conversion of SO₂ to SO₃ in the SCR.

Sources: DEF, 2014.
ECT, 2014.

Table B-15. CT/HRSG Emissions Rates For Four CT/HRSG Units Operating in CC Mode - Annual Profile 3: Criteria Air Pollutants and Sulfuric Acid Mist

Source	Case	Annual Operations		Emissions Rates								
		events/yr	min/event	hr/yr	NO _x		CO		VOC		PM	
					lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CT/HRSG	1			1,000	630.0	315.0	102.3	51.1	11.7	5.8	31.6	15.8
CT/HRSG	5			2,807	571.7	802.3	92.8	130.2	10.6	14.9	28.0	39.3
CT/HRSG	6			2,000	655.7	655.7	186.3	186.3	18.2	18.2	38.4	38.4
CT/HRSG	10			2,000	624.3	624.3	133.6	133.6	6.9	6.9	36.8	36.8
Subtotal - Normal Operations						2397.3		501.2		45.8		130.3
					lb/event	tpy	lb/event	tpy	lb/event	tpy	lb/event	tpy
Startups*†	Cold	6	333	33	385	4.6	12,645	151.7	2,395	28.7		
	Warm	15	151	38	205	6.2	6,810	204.3	1,150	34.5		
	Hot	174	78	226	50	17.4	1,195	415.9	260	90.5		
Shutdowns		195	32	104	55	21.5	791	308.5	155	60.5		
Downtime				552	0							
Subtotal - Startups/Shutdowns						49.6		1,080.4		214.2		
Totals				8,760	N/A	2,446.9	N/A	1,581.6	N/A	260.0	N/A	130.3
					PM ₁₀ /PM _{2.5}		SO ₂ ‡		H ₂ SO ₄ ‡		Lead	
					lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CT/HRSG	1			1,000	74.8	37.4	65.2	32.6	9.73	4.9	0.006	0.003
CT/HRSG	5			2,807	67.2	94.3	59.2	83.1	8.84	12.4	0.005	0.007
CT/HRSG	6			2,000	81.2	81.2	35.6	35.6	5.31	5.3	0.003	0.003
CT/HRSG	10			2,000	77.2	77.2	34.0	34.0	5.08	5.1	0.003	0.003
Subtotal - Normal Operations						290.1		185.3		27.7		0.016
					lb/event	tpy	lb/event	tpy	lb/event	tpy	lb/event	tpy
Startups*†	Cold	6	333	33	58	0.7	21	0.3				
	Warm	15	151	38	30	0.9	10	0.3				
	Hot	174	78	226	9	3.0	5	1.7				
Shutdowns		195	32	104	9	3.5	3	1.2				
Downtime				552								
Subtotal - Startups/Shutdowns						8.0		3.5				
Totals				8,760	N/A	298.1	N/A	188.7	N/A	27.7	N/A	0.016

*Startup hours based on the following:

6 cold starts at 333 minutes per startup.

174 number of hot starts at 78 minutes per startup.

15 number of warm starts at 151 minutes per startup.

195 number of shutdowns at 30 minutes per shutdown.

†Average number of start-ups for two combustion turbines.

‡Hourly and annual SO₂ and H₂SO₄ emission rates based on annual natural gas sulfur content limit of 2.0 grains/100 scf.

Sources: Burns and McDonnell, 2014.

DEF, 2014.

ECT, 2014.

Table B-16. Maximum CT and Duct Burner HAP Emissions: Four CT/HRSG Units in Combined Cycle Mode Firing Natural Gas

		CT		DB	
		100%, 17.2 °F	100%, 68.6°F	100%	
Maximum heat input (HHV):	MMBtu/hr	2,887	2,620	256	
Maximum annual hours:	hr/yr	8,760	8,760	4,000	

Pollutant	CT Emissions Factor* (lb/MMBtu)	DB Emissions Factor‡§ (lb/MMBtu)	Maximum CT (lb/hr)	Maximum DB (lb/hr)	CT and DB Total (lb/hr)	4 CTs and DBs Total¥ (tpy)
1,3-Butadiene	4.3E-07	N/A	1.24E-03	N/A	1.24E-03	1.97E-02
Acetaldehyde	4.0E-05	N/A	1.15E-01	N/A	1.15E-01	1.84E+00
Acrolein	6.4E-06	N/A	1.85E-02	N/A	1.85E-02	2.94E-01
Benzene	1.2E-05	2.1E-06	3.46E-02	5.27E-04	3.52E-02	5.55E-01
Ethylbenzene	3.2E-05	N/A	9.24E-02	N/A	9.24E-02	1.47E+00
Formaldehyde†	3.0E-04	7.4E-05	8.66E-01	1.88E-02	8.85E-01	1.39E+01
Naphthalene	1.3E-06	6.0E-07	3.75E-03	1.53E-04	3.91E-03	6.09E-02
Polycyclic aromatic hydrocarbons	2.2E-06	N/A	6.35E-03	N/A	6.35E-03	1.01E-01
Propylene oxide	2.9E-05	N/A	8.37E-02	N/A	8.37E-02	1.33E+00
Toluene	1.3E-04	3.3E-06	3.75E-01	8.53E-04	3.76E-01	5.97E+00
Xylene	6.4E-05	N/A	1.85E-01	N/A	1.85E-01	2.94E+00
	Maximum individual HAP					13.9
	Total HAPs					28.5

*EPA AP-42, Table 3.1-3, April 2000.

†CT factor based on average of EPA AP-42 test data for large, heavy duty CTs.

‡EPA AP-42, Table 1.4-3, March 1998.

§EPA AP-42, Table 1.4-4, March 1998.

||Based on baseload and 17.2 °F temperature.

¥Based on baseload and 68.6 °F temperature.

Source: ECT, 2014.

Table B-17. Summary of Facility Annual Pollutant Emissions Rates for PSD Netting Analysis

Criteria Pollutant	Annual Emissions Rates (tpy)							Facility Totals
	CT/HRSG Units*†	Cooling Tower (2)	Auxiliary Boiler‡	Generator IC Engine (2)§	Firewater Pump IC Engine (1)§	Fuel Gas Heater (2)	Chiller Cooling Tower (2)	
NO _x	2,672.0	N/A	21.2	8.17	0.67	9.49	N/A	2,711.6
CO	593.4	N/A	17.8	6.39	0.82	7.97	N/A	626.4
VOC	62.8	N/A	1.2	3.50	0.29	0.52	N/A	68.3
SO ₂	270.5	N/A	0.1	0.00	0.14	0.06	N/A	270.8
PM	143.6	131.8	1.6	0.37	0.05	0.72	0.39	278.6
PM ₁₀	322.3	0.9	1.6	0.37	0.05	0.72	0.20	326.2
PM _{2.5}	322.3	0.9	1.6	0.37	0.05	0.72	0.20	326.2
Lead	2.32E-02	N/A	1.04E-07	Negligible	Negligible	0.0	N/A	2.32E-02
H ₂ SO ₄ mist	40.4	N/A	Negligible	Negligible	Negligible	Negligible	N/A	40.4
GHG (as CO ₂ e)	5,600,070	N/A	25,302	2,242	78	11,482	N/A	5,639,174

Note: N/A = not applicable.

*CT/HRSG annual emissions based on 15 ppmvd @15-percent NO_x.

†CT/HRSG annual emissions based on 4,000-hr/yr duct burner firing.

NO_x and SO₂ only include startup/shutdown emissions for comparison to NO_x and SO₂ baseline actual emissions from CEMS data, which also includes statup/shutdown emissions.

‡Auxiliary boiler annual emissions based on 2,000 hr/yr.

§Generator and firewater pump engine annual emissions based on 500 hr/yr.

||Fuel gas heater annual emissions based on 8,760 hr/yr.

Source: ECT, 2014.

Table B-18. Summary of Facility Annual Pollutant Emissions Rates (Including Startup and Shutdown Emissions for All Pollutants)

Criteria Pollutant	Annual Emissions Rates (tpy)							Facility Totals
	CT/HRSG Units*†	Cooling Tower (2)	Auxiliary Boiler‡	Generator IC Engine (2)§	Firewater Pump IC Engine (1)§	Fuel Gas Heater (2)	Chiller Cooling Tower (2)	
NO _x	2,672.0	N/A	21.2	8.17	0.67	9.49	N/A	2,711.6
CO	1,581.6	N/A	17.8	6.39	0.82	7.97	N/A	1,614.6
VOC	260.0	N/A	1.2	3.50	0.29	0.52	N/A	265.5
SO ₂	270.5	N/A	0.1	0.00	0.14	0.06	N/A	270.8
PM	143.6	131.8	1.6	0.37	0.05	0.72	0.39	278.6
PM ₁₀	322.3	0.9	1.6	0.37	0.05	0.72	0.20	326.2
PM _{2.5}	322.3	0.9	1.6	0.37	0.05	0.72	0.20	326.2
Lead	2.32E-02	N/A	1.04E-07	Negligible	Negligible	0.0	N/A	2.32E-02
H ₂ SO ₄ mist	40.4	N/A	Negligible	Negligible	Negligible	Negligible	N/A	40.4
GHG (as CO ₂ e)	5,600,070	N/A	25,302	2,242	78	11,482	N/A	5,639,174

Note: N/A = not applicable.

*CT/HRSG annual emissions based on 15 ppmvd @15-percent NO_x.

†CT/HRSG annual emissions based on 4,000-hr/yr duct burner firing.

Startup/shutdown emissions have been included for all pollutants.

‡Auxiliary boiler annual emissions based on 2,000 hr/yr.

§Generator and firewater pump engine annual emissions based on 500 hr/yr.

||Fuel gas heater annual emissions based on 8,760 hr/yr.

Source: ECT, 2014.

Table B-19. Natural Gas Fuel Flow Rates (Combined Cycle Mode)

Percent Load:	17.2°F				68.6°F				91.4°F					
	100	100	75	50	100	100	75	50	100	100	100	100	75	50
Case:	1	2	3	4	5	6	7	8	9	10	11	12	13	14

A. Per CT/HRSG Unit

Heat input - HHV (MMBtu/hr)	2,887.0	3,143.4	2,268.0	1,733.0	2,620.0	2,876.4	2,042.0	1,581.0	2,461.0	2717.4	2,731.0	2,987.4	1,945.0	1510.0
Fuel rate* (lb/hr)	126,606	137,850	99,461	75,999	114,897	126,141	89,550	69,333	107,924	119,169	119,765	131,009	85,296	66,219
Fuel rate (lb/sec)	35.168	38.292	27.628	21.111	31.916	35.039	24.875	19.259	29.979	33.102	33.268	36.391	23.693	18.394
Fuel rate† (MMft ³ /hr)	2.793	3.042	2.195	1.677	2.535	2.783	1.976	1.530	2.381	2.629	2.643	2.891	1.882	1.461

B. Per Duct Burner

	Rated Heat Input (%)		
	100	70	50
Heat input - HHV (MMBtu/hr)	250.0	175.0	125.0
Fuel rate* (lb/hr)	10,963	7,674	5,481.7
Fuel rate (lb/sec)	3.045	2.1	1.523
Fuel rate† (MMft ³ /hr)	0.242	0.2	0.121

*Based on natural gas heat content of 22,803 Btu/lb (HHV).

†Based on natural gas density of 0.0453222 lb/ft³.

Sources: Burns and McDonnell, 2014.
 DEF, 2014.
 ECT, 2014.

Table B-20. CTG/HRSG (Combined Cycle Mode) Exhaust Flow Rates (per CTG/HRSG)

	Exhaust Gas Composition - Volume %													
	17.2°F				68.6°F				91.4°F					
	100	100	75	50	100	100	75	50	100	100	100	100	75	50
Percent load:	100	100	75	50	100	100	75	50	100	100	100	100	75	50
Case:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Inlet Chilling:	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No	No
Duct Burners:	No	No	No	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
Molecular Weight (lb/mole)														
A. Exhaust Molecular Weight														
Ar	39.944	0.89	0.89	0.89	0.88	0.87	0.88	0.88	0.87	0.86	0.89	0.88	0.87	0.87
N ₂	28.013	74.72	74.37	74.89	74.82	73.58	73.13	73.85	73.79	72.88	72.39	74.11	73.52	73.14
O ₂	31.999	12.10	11.15	12.58	12.38	11.77	10.53	12.52	12.36	11.68	10.33	12.00	10.69	12.42
CO ₂	44.010	4.08	4.51	3.86	3.95	4.09	4.66	3.75	3.82	4.04	4.66	4.00	4.63	3.70
H ₂ O	18.015	8.08	8.93	7.65	7.83	9.55	10.66	8.89	9.03	10.40	11.60	9.00	10.14	9.75
SO ₂	64.063	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CO	28.010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HC (CH ₄)	16.043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NO	30.006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals	99.87	99.85	99.87	99.87	99.87	99.85	99.89	99.88	99.87	99.84	100.00	99.86	99.88	99.88
Exhaust MW (lb/mole)	28.41	28.35	28.44	28.43	28.25	28.17	28.30	28.29	28.15	28.07	28.34	28.23	28.20	28.19
Exhaust flow (lb/sec)	1,494.7	1,497.8	1,243.6	930.3	1,344.4	1,347.6	1,146.7	870.6	1,274.4	1,277.6	1,400.0	1,403.7	1,102.5	852.2
Exhaust temperature (°F)	187.0	179.0	175.0	175.0	185.0	176.0	170.0	175.0	186.0	177.0	185.0	176.0	174.0	175.0
Exhaust temperature (K)	359	355	353	353	358	353	350	353	359	354	358	353	352	353
Exhaust oxygen (vol %, dry)	13.16	12.24	13.62	13.43	13.01	11.79	13.74	13.59	13.04	11.69	13.19	11.90	13.76	13.73
B. Exhaust Flow Rates														
	Flow Rates (ft ³ /min)													
	17.2°F				68.6°F				91.4°F					
	100	100	75	50	100	100	75	50	100	100	100	100	75	50
Percent Load:	100	100	75	50	100	100	75	50	100	100	100	100	75	50
Case:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ACFM*	1,501,794	1,489,447	1,225,159	916,848	1,354,243	1,342,055	1,126,285	862,233	1,290,188	1,279,152	1,405,856	1,395,142	1,093,720	846,847
Velocity (fps)†	62.4	61.9	50.9	38.1	56.3	55.8	46.8	35.8	53.6	53.1	58.4	58.0	45.4	35.2
Velocity (m/s)‡	19.0	18.9	15.5	11.6	17.1	17.0	14.3	10.9	16.3	16.2	17.8	17.7	13.9	10.7
SCFM, dry‡	1,118,012	1,112,320	933,654	697,338	995,121	987,846	853,501	647,261	937,689	930,176	1,039,328	1,032,899	815,820	630,470
ACFM (15% oxygen, dry)	1,810,115	1,990,212	1,395,674	1,069,686	1,637,498	1,852,049	1,245,021	972,238	1,540,878	1,766,010	1,672,492	1,913,174	1,194,240	928,084
SCFM (15% oxygen, dry)	1,465,994	1,632,032	1,151,703	882,700	1,330,305	1,525,899	1,035,538	802,286	1,249,873	1,452,727	1,358,734	1,576,259	987,035	765,850

*Based on an site elevation of 195 ft amsl.

†Based on a stack diameter of 22.6 ft.

‡At 68°F.

Sources: Burns and McDonnell, 2014.
ECT, 2014.

Table B-21. Potential Greenhouse Gas (GHG) Emissions

Emissions Source	Maximum Annual Potential Heat Input (MMBtu/yr)	CO ₂			Methane			N ₂ O			CO ₂ e
		Emissions Factor* (kg/MMBtu)	Potential Emissions (short tpy)	Potential CO ₂ e Emissions‡ (short tpy)	Emissions Factor† (kg/MMBtu)	Potential Emissions (short tpy)	Potential CO ₂ e Emissions‡ (short tpy)	Emissions Factor† (kg/MMBtu)	Potential Emissions (short tpy)	Potential CO ₂ e Emissions‡ (short tpy)	Potential Emissions (short tpy)
CT/HRS (per CT)	23,925,800										
CT/HRS (4 CTs)	95,703,200	53.02	5,594,287	5,594,287	1.0E-03	106	2638	1.0E-04	11	3144	5,600,070
Auxiliary boiler	432,400	53.02	25,276	25,276	1.0E-03	0	12	1.0E-04	0	14	25,302
Fuel gas heater	196,224	53.02	11,470	11,470	1.0E-03	0	5	1.0E-04	0	6	11,482
Emergency generator	27,400	73.96	2,234	2,234	3.0E-03	0	2	6.0E-04	0	5	2,242
Emergency firewater pump	959	73.96	78	78	3.0E-03	0	0	6.0E-04	0	0	78
Total annual											5,639,174

*Mandatory Reporting of Greenhouse Gases, Final Rule; Federal Register Vol. 74, No. 209, October 30, 2009, Table C-1 To Subpart C of Part 98.

†Mandatory Reporting of Greenhouse Gases, Final Rule; Federal Register Vol. 74, No. 209, October 30, 2009, Table C-2 To Subpart C of Part 98.

‡Based on global warming potential of 1 for CO₂, 25 for methane, and 298 for N₂O.

Source: ECT, 2014.

Table B-22.

POTENTIAL EMISSION INVENTORY WORKSHEET							
DEF - Citrus Combined Cycle							AUX1
EMISSION SOURCE TYPE							
EXTERNAL COMBUSTION SOURCES > 100 MMBtu/hr							
FACILITY AND SOURCE DESCRIPTION							
Emission Source Description:		Natural Gas-Fired Auxiliary Boiler					
Emission Control Method(s)/ID No.(s):		None					
Emission Point Description:		216.2 MMBtu/hr Rated Capacity (HHV)					
EMISSION ESTIMATION EQUATIONS							
Emission (lb/hr) = Emission Factor (lb/MMBtu) x Rated Capacity (MMBtu/hr)							
Emission (ton/yr) = Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)							
INPUT DATA AND EMISSIONS CALCULATIONS							
Operating Hours:		2,000 hrs/yr					
Natural Gas Heat Content:		1,033 Btu/scf (HHV)					
No. of Aux. Boilers		1					
Maximum Heat Input:		216.2 MMBtu/hr (HHV)					
Pollutant	Emission Factor (lb/MMBtu)	Potential Emission Rates		Hazardous Air Pollutant (HAP)	Emission Factor (lb/10 ⁶ scf)	Potential Emission Rates	
		Per Unit (lb/hr)	Per Unit (tpy)			Per Unit (lb/hr)	Per Unit (tpy)
NO _x	0.0980	21.20	21.2	2-Methylnapthalene	2.4E-05	5.02E-06	5.02E-06
CO	0.0824	17.81	17.8	Arsenic	2.0E-04	4.18E-05	4.18E-05
VOC	0.0054	1.17	1.17	Benzene	2.1E-03	4.39E-04	4.39E-04
SO ₂	0.0006	0.13	0.13	Cadmium	1.1E-03	2.30E-04	2.30E-04
PM	0.0075	1.61	1.61	Chromium	1.4E-03	2.93E-04	2.93E-04
PM ₁₀	0.0075	1.62	1.62	Cobalt	8.4E-05	1.76E-05	1.76E-05
Lead	4.90E-07	1.04E-07	1.04E-07	Dichlorobenzene	1.2E-03	2.51E-04	2.51E-04
Highest HAP		3.77E-01	3.77E-01	Fl r n.h n	3.0E-06	6.28E-07	6.28E-07
Total HAPs		3.95E-01	3.95E-01	Fluorene	2.8E-06	5.86E-07	5.86E-07
				Formaldehyde	7.5E-02	1.57E-02	1.57E-02
				Hexane	1.8E+00	3.77E-01	3.77E-01
				Manganese	3.8E-04	7.95E-05	7.95E-05
				Mercury	2.6E-04	5.44E-05	5.44E-05
				Naphthanlene	6.1E-04	1.28E-04	1.28E-04
				Nickel	2.1E-03	4.39E-04	4.39E-04
				Phenanathrene	1.7E-05	3.56E-06	3.56E-06
				Pyrene	5.0E-06	1.05E-06	1.05E-06
				Toluene	3.4E-03	7.11E-04	7.11E-04
SOURCES OF INPUT DATA							
Parameter		Data Source					
Operating Hours (annual)		DEF, 2014.					
Natural Gas Heat Content (Btu/scf, HHV)		DEF, 2014.					
Maximum Heat Input (MMBtu/hr, HHV)		DEF, 2014.					
Emission Factors (NO _x , CO)		AP-42, Table 1.4-1, July 1998					
Emission Factors (VOC, SO ₂ , PM/PM ₁₀)		AP-42, Table 1.4-2, July 1998					
Emission Factors (Lead)		AP-42, Table 1.4-2, July 1998					
Emission Factors (HAPs)		AP-42, Tables 1.4-3 and 1.4-4, July 1998					
NOTES AND OBSERVATIONS							
Only detected HAP compounds listed.							
DATA CONTROL							
Data Collected by:	C. Foster			Date:	Jul-14		
Calculated by:	C. Foster			Date:	Jul-14		
Reviewed by:	W. Karl			Date:	Jul-14		

Table B-23.

POTENTIAL EMISSION INVENTORY WORKSHEET							
DEF - Citrus Combined Cycle							EG1
<i>EMISSION SOURCE TYPE</i>							
INTERNAL COMBUSTION ENGINES > 600 HP							
<i>FACILITY AND SOURCE DESCRIPTION</i>							
Emission Source Description: Emergency Generator							
Emission Control Method(s)/ID No.(s): None							
Emission Point Description: 1,500 -kW Diesel Generator 2,220 BHP							
<i>EMISSION ESTIMATION EQUATIONS</i>							
Emission (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)							
Emission (ton/yr) = Emission Factor (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)							
<i>INPUT DATA AND EMISSIONS CALCULATIONS</i>							
Operating Hours: 500 hrs/yr				Fuel Flow: 200.0 gal/hr			
No. of Generators 2				Diesel Sulfur Content: 0.0015 weight %			
Heat Input: 27.40 MMBtu/hr (HHV)				Diesel Heat Content: 137,000 Btu/gal (HHV)			
Pollutant	Emission Factor g/hp-hr	Potential Emission Rates		Pollutant	Emission Factor (lb/MMBtu)	Potential Emission Rates	
		Per Unit (lb/hr)	Per Unit (tpy)			Per Unit (lb/hr)	Per Unit (tpy)
NO _x	3.34	16.35	8.17	Acetaldehyde	2.52E-05	6.90E-04	3.45E-04
CO	2.61	12.77	6.39	Acrolein	7.88E-06	2.16E-04	1.08E-04
VOC	1.43	7.00	3.50	Benzene	7.76E-04	2.13E-02	1.06E-02
SO ₂	1.21E-05	0.00	0.00	Formaldehyde	7.89E-05	2.16E-03	1.08E-03
PM	0.15	0.73	0.37	Naphthalene	1.30E-04	3.56E-03	1.78E-03
PM ₁₀	0.15	0.73	0.37	POM	2.12E-04	5.81E-03	2.90E-03
Highest HAP		2.13E-02	1.06E-02	Toluene	2.81E-04	7.70E-03	3.85E-03
Total HAPs		4.67E-02	2.33E-02	Xylenes	1.93E-04	5.29E-03	2.64E-03
<i>SOURCES OF INPUT DATA</i>							
Parameter		Data Source					
Operating Hours (annual)		DEF, 2014					
Fuel Flow Rate (gal/hr)		Cummins, DEF, ECT, 2014.					
Emission Factors (Criteria Pollutants)		40 CFR Part 60 Subpart IIII except SO2 based on AP-42					
Emission Factors (HAPs)		AP-42, Table 3.4-3 and 3.4-4, EPA, October 1996					
<i>NOTES AND OBSERVATIONS</i>							
NOx EF is based on 70% of NMHC+NOx EF.							
VOC EF is based on 30% of NMHC+NOx EF.							
POM = Polycyclic Organic Matter							
<i>DATA CONTROL</i>							
Data Collected by: C. Foster				Date: May-14			
Calculated by: C. Foster				Date: May-14			
Reviewed by: W. Karl				Date: May-14			

Table B-24.

POTENTIAL EMISSION INVENTORY WORKSHEET							
DEF - Citrus Combined Cycle						FWP1	
<i>EMISSION SOURCE TYPE</i>							
INTERNAL COMBUSTION ENGINES < 600 HP							
<i>FACILITY AND SOURCE DESCRIPTION</i>							
Emission Source Description:		Firewater Pump					
Emission Control Method(s)/ID No.(s):		None					
Emission Point Description:		575 -HP Diesel Engine					
<i>EMISSION ESTIMATION EQUATIONS</i>							
Emission (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)							
Emission (ton/yr) = Emission Factor (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)							
<i>INPUT DATA AND EMISSIONS CALCULATIONS</i>							
Operating Hours: 500 hrs/yr				Fuel Flow: 14.0 gal/hr			
No. of Engines: 1				Diesel Sulfur Conten 0.05 weight %			
Heat Input: 1.92 MMBtu/hr (HHV)				Diesel Heat Content: 137,000 Btu/gal (HHV)			
Pollutant	Emission Factor g/hp-hr	Potential Emission Rates		Pollutant	Emission Factor (lb/MMBtu)	Potential Emission Rates	
		Per Unit (lb/hr)	Per Unit (tpy)			Per Unit (lb/hr)	Per Unit (tpy)
NO _x	2.10	2.66	0.67	1,3-Butadiene	3.91E-05	7.50E-05	1.87E-05
CO	2.60	3.30	0.82	Acetaldehyde	7.67E-04	1.47E-03	3.68E-04
VOC	0.90	1.14	0.29	Acrolein	9.25E-05	1.77E-04	4.44E-05
SO ₂	0.45	0.57	0.14	Benzene	9.33E-04	1.79E-03	4.47E-04
PM	0.15	0.19	0.05	Formaldehyde	1.18E-03	2.26E-03	5.66E-04
PM ₁₀	0.15	0.19	0.05	Naphthalene	1.30E-04	2.49E-04	6.23E-05
Highest HAP		4.95E-03	1.24E-03	POM	1.68E-04	3.22E-04	8.06E-05
Total HAPs		1.26E-02	3.16E-03	Propylene	2.58E-03	4.95E-03	1.24E-03
				Toluene	4.09E-04	7.84E-04	1.96E-04
				Xylenes	2.85E-04	5.47E-04	1.37E-04
<i>SOURCES OF INPUT DATA</i>							
Parameter		Data Source					
Operating Hours (annual)		DEF, 2014					
Fuel Flow Rate (gal/hr)		Cummins, DEF, 2014.					
Emission Factors (Criteria Pollutants)		40 CFR Part 60 Subpart IIII except SO2 based on AP-42					
Emission Factors (HAPs)		AP-42, Tables 3.3-1, EPA, October 1996					
Emission Factors (HAPs)		AP-42, Tables 3.3-2, EPA, October 1996					
<i>NOTES AND OBSERVATIONS</i>							
NO _x EF is based on 70% of NMHC+NO _x EF.							
VOC EF is based on 30% of NMHC+NO _x EF.							
POM = Polycyclic Organic Matter							
<i>DATA CONTROL</i>							
Data Collected by: C. Foster				Date: May-14			
Calculated by: C. Foster				Date: May-14			
Reviewed by: W. Karl				Date: May-14			

Table B-25.

POTENTIAL EMISSION INVENTORY WORKSHEET							
DEF - Citrus Combined Cycle							FGH
EMISSION SOURCE TYPE							
EXTERNAL COMBUSTION SOURCES < 100 MMBtu/hr							
FACILITY AND SOURCE DESCRIPTION							
Emission Source Description:		Natural Gas-Fired Fuel Gas Dew Point Heater					
Emission Control Method(s)/ID No.(s):		None					
Emission Point Description:		11.2 MMBtu/hr Rated Capacity (HHV)					
EMISSION ESTIMATION EQUATIONS							
Emission (lb/hr) = Emission Factor (lb/MMBtu) x Rated Capacity (MMBtu/hr)							
Emission (ton/yr) = Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)							
INPUT DATA AND EMISSIONS CALCULATIONS							
Operating Hours:		8,760 hrs/yr					
Natural Gas Heat Content:		1,033 Btu/scf (HHV)					
No. of Fuel Gas Heaters		2					
Maximum Heat Input:		11.2 MMBtu/hr (HHV)					
Pollutant	Emission Factor (lb/MMcf)	Potential Emission Rates		Hazardous Air Pollutant (HAP)	Emission Factor (lb/10 ⁶ scf)	Potential Emission Rates	
		Per Unit (lb/hr)	Per Unit (tpy)			Per Unit (lb/hr)	Per Unit (tpy)
NO _x *	100.0	1.08	9.5	2-Methylnapthalene	2.4E-05	2.60E-07	2.28E-06
CO	84.0	0.91	8.0	Arsenic	2.0E-04	2.17E-06	1.90E-05
VOC	5.5	0.06	0.52	Benzene	2.1E-03	2.28E-05	1.99E-04
SO ₂	0.6	0.01	0.06	Cadmium	1.1E-03	1.19E-05	1.04E-04
PM	7.6	0.08	0.72	Chromium	1.4E-03	1.52E-05	1.33E-04
PM ₁₀	7.6	0.08	0.72	Cobalt	8.4E-05	9.10E-07	7.97E-06
Lead	5.00E-04	5.49E-06	4.81E-05	Dichlorobenzene	1.2E-03	1.30E-05	1.14E-04
Highest HAP		1.95E-02	1.71E-01	Fl r n.h n	3.0E-06	3.25E-08	2.85E-07
Total HAPs		2.05E-02	1.79E-01	Fluorene	2.8E-06	3.03E-08	2.66E-07
				Formaldehyde	7.5E-02	8.13E-04	7.12E-03
				Hexane	1.8E+00	1.95E-02	1.71E-01
				Manganese	3.8E-04	4.12E-06	3.61E-05
				Mercury	2.6E-04	2.82E-06	2.47E-05
				Naphthanlene	6.1E-04	6.61E-06	5.79E-05
				Nickel	2.1E-03	2.28E-05	1.99E-04
				Phenanathrene	1.7E-05	1.84E-07	1.61E-06
				Pyrene	5.0E-06	5.42E-08	4.75E-07
				Toluene	3.4E-03	3.68E-05	3.23E-04
SOURCES OF INPUT DATA							
Parameter		Data Source					
Operating Hours (annual)		DEF, 2014					
Natural Gas Heat Content (Btu/scf, HHV)		DEF, 2014					
Maximum Heat Input (MMBtu/hr, HHV)		DEF, 2014					
Emission Factor (NO _x , CO)		AP-42, Table 1.4-1, July 1998					
Emission Factors (VOC, SO ₂ , PM/PM ₁₀)		AP-42, Table 1.4-2, July 1998					
Emission Factors (Lead)		AP-42, Table 1.4-2, July 1998					
Emission Factors (HAPs)		AP-42, Tables 1.4-3 and 1.4-4, July 1998					
NOTES AND OBSERVATIONS							
Only detected HAP compounds listed.							
DATA CONTROL							
Data Collected by:		C. Foster			Date:		Jul-14
Calculated by:		C. Foster			Date:		Jul-14
Reviewed by:		W. Karl			Date:		Jul-14

Table B-26.

POTENTIAL EMISSION INVENTORY WORKSHEET				
DEF- Citrus Combined Cycle				CTWR1 - 32
EMISSION SOURCE TYPE				
COOLING TOWERS - PM/PM ₁₀				
FACILITY AND SOURCE DESCRIPTION				
Emission Source Description:		Mechanical Draft Cooling Towers		
Emission Control Method(s)/ID No.(s):		Drift Mist Eliminators		
Emission Point Description:		Sixteen-cell Cooling Tower		
EMISSION ESTIMATION EQUATIONS				
PM Emission (lb/hr) = Recirculating Water Flow Rate (gpm) x (Drift Loss Rate (%) / 100) x 8 345 lb/gal x (TDS (ppmw) / 10) x 60 min/hr				
PM Emission (ton/yr) = PM Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)				
PM ₁₀ Emission (lb/hr) = PM Emissions (lb/hr) x PM ₁₀ /PM Fraction				
PM ₁₀ Emission (ton/yr) = PM ₁₀ Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)				
Source: ECT, 2014				
INPUT DATA AND EMISSIONS CALCULATIONS				
Cooling Tower Data (Per Tower)				
Operating Hours:	8,760	hrs/yr		
Number of Cells per Tower:	16			
Recirculating Water Flow Rate:	195,926	gal/min		
Drift Loss Rate:	0.00050	%		
Total Dissolved Solids (TDS):	30,680	ppmw		
PM ₁₀ /PM Fraction:	0.007			
Number of Towers:	2			
Pollutant	Potential Emission Rates (Per Cell)		Potential Emission Rates (Two Towers)	
	(lb/hr)	(g/s)	(lb/hr)	(tpy)
PM	0.941	0.1185	30.1	131.8
PM ₁₀	0.007	0.0008	0.2	0.9
SOURCES OF INPUT DATA				
Parameter	Data Source			
Operating Hours (annual)	DEF, 2014			
Recirculating Water Flow Rate (gpm)	DEF, 2014			
Drift Loss Rate (%)	DEF, 2014			
PM ₁₀ /PM Fraction:	ECT, 2014			
TDS (ppmw)	DEF, 2014			
NOTES AND OBSERVATIONS				
DATA CONTROL				
Data Collected by:	C. Foster			May-14
Data Entered by:	C. Foster			May-14
Reviewed by:	W. Karl			May-14

Table B-27. Cooling Tower PM₁₀ Fraction—Cooling Towers

Procedure Citation: AWMA Abstract No. 216, Session No. AM-1b, Orlando, 2001. Calculating Realistic PM₁₀ Emissions from Cooling Towers

Cooling Tower Design Data: Recirculating Water Total Dissolved Solids: 30,680 ppmw
 PM₁₀ Density (assumed NaCl): 2.2 g/cm³

Droplet Diameter (μm)	Droplet Volume (m ³)	Droplet Mass (gram)	Particle Mass (gram)	Particle Volume (m ³)	Particle Diameter (μm)	Mass Fraction (%)
Particle Size Distribution						
10	5.24E-16	5.24E-10	1.61E-11	7.30E-18	2.407	0.000
20	4.19E-15	4.19E-09	1.29E-10	5.84E-17	4.814	0.196
30	1.41E-14	1.41E-08	4.34E-10	1.97E-16	7.221	0.226
40	3.35E-14	3.35E-08	1.03E-09	4.67E-16	9.628	0.514
50	6.54E-14	6.54E-08	2.01E-09	9.13E-16	12.035	1.816
60	1.13E-13	1.13E-07	3.47E-09	1.58E-15	14.442	5.702
70	1.80E-13	1.80E-07	5.51E-09	2.50E-15	16.849	21.348
90	3.82E-13	3.82E-07	1.17E-08	5.32E-15	21.663	49.812
110	6.97E-13	6.97E-07	2.14E-08	9.72E-15	26.477	70.509
130	1.15E-12	1.15E-06	3.53E-08	1.60E-14	31.291	82.023
150	1.77E-12	1.77E-06	5.42E-08	2.46E-14	36.105	88.012
180	3.05E-12	3.05E-06	9.37E-08	4.26E-14	43.326	91.032
210	4.85E-12	4.85E-06	1.49E-07	6.76E-14	50.547	92.468
240	7.24E-12	7.24E-06	2.22E-07	1.01E-13	57.768	94.091
270	1.03E-11	1.03E-05	3.16E-07	1.44E-13	64.989	94.689
300	1.41E-11	1.41E-05	4.34E-07	1.97E-13	72.210	96.288
350	2.24E-11	2.24E-05	6.89E-07	3.13E-13	84.245	97.011
400	3.35E-11	3.35E-05	1.03E-06	4.67E-13	96.280	98.340
450	4.77E-11	4.77E-05	1.46E-06	6.65E-13	108.315	99.071
500	6.54E-11	6.54E-05	2.01E-06	9.13E-13	120.350	99.071
600	1.13E-10	1.13E-04	3.47E-06	1.58E-12	144.420	100.000
Linear Interpolation						
40	3.35E-14	3.35E-08	1.03E-09	4.67E-16	9.628	0.514
50	6.54E-14	6.54E-08	2.01E-09	9.13E-16	12.035	1.816
					10.000	0.715

Mass Fraction of Cooling Tower PM ≤ PM₁₀: 0.007

Source: ECT, 2014.

Table B-28.

POTENTIAL EMISSION INVENTORY WORKSHEET				
DEF- Citrus Combined Cycle			CHLR CT 1 - 12	
EMISSION SOURCE TYPE				
INLET CHILLER COOLING TOWERS - PM/PM ₁₀				
FACILITY AND SOURCE DESCRIPTION				
Emission Source Description:		Mechanical Draft Cooling Towers		
Emission Control Method(s)/ID No.(s):		Drift Mist Eliminators		
Emission Point Description:		Inlet Chiller Cooling Tower		
EMISSION ESTIMATION EQUATIONS				
PM Emission (lb/hr) = Recirculating Water Flow Rate (gpm) x (Drift Loss Rate (%) / 100) x 8.345 lb/gal x (TDS (ppmw) / 10 ⁶) x 60 min/hr				
PM Emission (ton/yr) = PM Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)				
PM ₁₀ Emission (lb/hr) = PM Emissions (lb/hr) x PM ₁₀ /PM Fraction				
PM ₁₀ Emission (ton/yr) = PM ₁₀ Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)				
Source: ECT, 2014				
INPUT DATA AND EMISSIONS CALCULATIONS				
Cooling Tower Data (Per Tower)				
Operating Hours:	8,760	hrs/yr		
Number of Cells per Tower:	6			
Recirculating Water Flow Rate:	6,000	gal/min		
Drift Loss Rate:	0.00050	%		
Total Dissolved Solids (TDS):	3,000	ppmw		
PM ₁₀ /PM Fraction:	0.500			
Number of Towers:	2			
Pollutant	Potential Emission Rates (Per Cell)		Potential Emission Rates (One Tower)	
	(lb/hr)	(g/s)	(lb/hr)	(tpy)
PM	0.008	0.0009	0.1	0.4
PM ₁₀	0.004	0.0005	0.0	0.2
SOURCES OF INPUT DATA				
Parameter	Data Source			
Operating Hours (annual)	DEF, 2014			
Recirculating Water Flow Rate (gpm)	DEF, 2014			
Drift Loss Rate (%)	DEF, 2014			
PM ₁₀ /PM Fraction:	ECT, 2014			
TDS (ppmw)	DEF, 2014			
NOTES AND OBSERVATIONS				
DATA CONTROL				
Data Collected by:	C. Foster			May-14
Data Entered by:	C. Foster			May-14
Reviewed by:	W. Karl			May-14

Table B-29. Cooling Tower PM₁₀ Fraction—Inlet Chiller Cooling Towers

Procedure Citation: AWMA Abstract No. 216, Session No. AM-1b, Orlando, 2001. Calculating Realistic PM₁₀ Emissions from Cooling Towers

Cooling Tower Design Data: Recirculating Water Total Dissolved Solids: 3,000 ppmw
 PM₁₀ Density (assumed NaCl): 2.2 g/cm³

Droplet Diameter (μm)	Droplet Volume (m ³)	Droplet Mass (gram)	Particle Mass (gram)	Particle Volume (m ³)	Particle Diameter (μm)	Mass Fraction (%)
Particle Size Distribution						
10	5.24E-16	5.24E-10	1.57E-12	7.14E-19	1.109	0.000
20	4.19E-15	4.19E-09	1.26E-11	5.71E-18	2.218	0.196
30	1.41E-14	1.41E-08	4.24E-11	1.93E-17	3.327	0.226
40	3.35E-14	3.35E-08	1.01E-10	4.57E-17	4.436	0.514
50	6.54E-14	6.54E-08	1.96E-10	8.92E-17	5.545	1.816
60	1.13E-13	1.13E-07	3.39E-10	1.54E-16	6.654	5.702
70	1.80E-13	1.80E-07	5.39E-10	2.45E-16	7.762	21.348
90	3.82E-13	3.82E-07	1.15E-09	5.21E-16	9.980	49.812
110	6.97E-13	6.97E-07	2.09E-09	9.50E-16	12.198	70.509
130	1.15E-12	1.15E-06	3.45E-09	1.57E-15	14.416	82.023
150	1.77E-12	1.77E-06	5.30E-09	2.41E-15	16.634	88.012
180	3.05E-12	3.05E-06	9.16E-09	4.16E-15	19.961	91.032
210	4.85E-12	4.85E-06	1.45E-08	6.61E-15	23.287	92.468
240	7.24E-12	7.24E-06	2.17E-08	9.87E-15	26.614	94.091
270	1.03E-11	1.03E-05	3.09E-08	1.41E-14	29.941	94.689
300	1.41E-11	1.41E-05	4.24E-08	1.93E-14	33.268	96.288
350	2.24E-11	2.24E-05	6.73E-08	3.06E-14	38.812	97.011
400	3.35E-11	3.35E-05	1.01E-07	4.57E-14	44.357	98.340
450	4.77E-11	4.77E-05	1.43E-07	6.51E-14	49.901	99.071
500	6.54E-11	6.54E-05	1.96E-07	8.92E-14	55.446	99.071
600	1.13E-10	1.13E-04	3.39E-07	1.54E-13	66.535	100.000
Linear Interpolation						
90	3.82E-13	3.82E-07	1.15E-09	5.21E-16	9.980	49.812
110	6.97E-13	6.97E-07	2.09E-09	9.50E-16	12.198	70.509
					10.000	49.996
Mass Fraction of Cooling Tower PM ≤ PM₁₀:			0.500			

Source: ECT, 2014.

APPENDIX C

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

APPENDIX C

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Unconfined PM emissions may result from operations including:

- Vehicular traffic on paved and unpaved roads and parking areas.
- Wind-blown dust from paved and unpaved roads and parking areas.

The following techniques will be used to prevent unconfined PM emissions on an as-needed basis:

- Chemical or water application to:
 - Unpaved roads and parking areas.
 - Unpaved yard areas.
- Flushing/sweeping paved roads and parking areas.
- Landscaping or planting of vegetation.
- Other techniques, as necessary.

APPENDIX D
ACID RAIN PART FORMS

Acid Rain Part Application

For more information, see instructions and refer to 40 CFR 72.30, 72.31, and 74; and Chapter 62-214, F.A.C.

This submission is: New Revised Renewal

STEP 1

Identify the source by plant name, state, and ORIS or plant code.

Crystal River Plant	Florida	628
Plant name	State	ORIS/Plant Code

STEP 2

Enter the unit ID# for every Acid Rain unit at the Acid Rain source in column "a."

If unit a SO₂ Opt-in unit, enter "yes" in column "b".

For new units or SO₂ Opt-in units, enter the requested information in columns "d" and "e."

a	b	c	d	e
Unit ID#	SO ₂ Opt-in Unit? (Yes or No)	Unit will hold allowances in accordance with 40 CFR 72.9(c)(1)	New or SO ₂ Opt-in Units Commence Operation Date	New or SO ₂ Opt-in Units Monitor Certification Deadline
1	No	Yes	N/A	N/A
2	No	Yes	N/A	N/A
4	No	Yes	N/A	N/A
5	No	Yes	N/A	N/A
CCC-1A	No	Yes	N/A	N/A
CCC-1B	No	Yes	N/A	N/A
CCC-2A	No	Yes	N/A	N/A
CCC-2B	No	Yes	N/A	N/A
		Yes		
		Yes		
		Yes		
		Yes		

Plant Name (from STEP 1)
Crystal River Plant

STEP 3

Read the standard requirements.

Acid Rain Part Requirements.

- (1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
 - (i) Submit a complete Acid Rain Part application (including a compliance plan) under 40 CFR Part 72 and Rules 62-214.320 and 330, F.A.C., in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
 - (ii) Submit in a timely manner any supplemental information that the DEP determines is necessary in order to review an Acid Rain Part application and issue or deny an Acid Rain Part;
- (2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
 - (i) Operate the unit in compliance with a complete Acid Rain Part application or a superseding Acid Rain Part issued by the DEP; and
 - (ii) Have an Acid Rain Part.

Monitoring Requirements.

- (1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR Part 75, and Rule 62-214.420, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR Part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.
- (4) For applications including a SO₂ Opt-in unit, a monitoring plan for each SO₂ Opt-in unit must be submitted with this application pursuant to 40 CFR 74.14(a). For renewal applications for SO₂ Opt-in units include an updated monitoring plan if applicable under 40 CFR 75 53(b).

Sulfur Dioxide Requirements.

- (1) The owners and operators of each source and each Acid Rain unit at the source shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another Acid Rain unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000, or the deadline for monitor certification under 40 CFR Part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain Part application, the Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements.

- (1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77.
- (2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
 - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR Part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR Part 77.

Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the EPA or the DEP:
 - (i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
 - (ii) All emissions monitoring information, in accordance with 40 CFR Part 75, provided that to the extent that 40 CFR Part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

**STEP 3,
Continued.**

Plant Name (from STEP 1)
Crystal River Plant

Recordkeeping and Reporting Requirements (cont)

- (iv) Copies of all documents used to complete an Acid Rain Part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR Part 72, Subpart I, and 40 CFR Part 75.

Liability.

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain Part application, an Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.
- (6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR Part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
- (7) Each violation of a provision of 40 CFR Parts 72, 73, 74, 75, 76, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities.

No provision of the Acid Rain Program, an Acid Rain Part application, an Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
- (2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
- (3) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding such state regulation, or limiting such state regulation, including any prudence review requirements under such state law;
- (4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
- (5) Interfering with or impairing any program for competitive bidding for power supply in a state in which such program is established.

**STEP 4
For SO₂ Opt-in
units only.**

**In column "f" enter
the unit ID# for
every SO₂ Opt-in
unit identified in
column "a" of
STEP 2.**

**For column "g"
describe the
combustion unit
and attach
information and
diagrams on the
combustion unit's
configuration.**

**In column "h"
enter the hours.**

f	g	h (not required for renewal application)
Unit ID#	Description of the combustion unit	Number of hours unit operated in the six months preceding initial application

Plant Name (from STEP 1)
Crystal River Plant

STEP 5

For SO₂ Opt-in units only. (Not required for SO₂ Opt-in renewal applications.)

In column "i" enter the unit ID# for every SO₂ Opt-in unit identified in column "a" (and in column "f").

For columns "j" through "n," enter the information required under 40 CFR 74.20-74.25 and attach all supporting documentation required by 40 CFR 74.20-74.25.

i	j	k	l	m	n
Unit ID#	Baseline or Alternative Baseline under 40 CFR 74.20 (mmBtu)	Actual SO ₂ Emissions Rate under 40 CFR 74.22 (lbs/mmBtu)	Allowable 1985 SO ₂ Emissions Rate under 40 CFR 74.23 (lbs/mmBtu)	Current Allowable SO ₂ Emissions Rate under 40 CFR 74.24 (lbs/mmBtu)	Current Promulgated SO ₂ Emissions Rate under 40 CFR 74.25 (lbs/mmBtu)

STEP 6

For SO₂ Opt-in units only.

Attach additional requirements, certify and sign.

- A. If the combustion source seeks to qualify for a transfer of allowances from the replacement of thermal energy, a thermal energy plan as provided in 40 CFR 74.47 for combustion sources must be attached.
- B. A statement whether the combustion unit was previously an affected unit under 40 CFR 74.
- C. A statement that the combustion unit is not an affected unit under 40 CFR 72.6 and does not have an exemption under 40 CFR 72.7, 72.8, or 72.14.
- D. Attach a complete compliance plan for SO₂ under 40 CFR 72.40.
- E. The designated representative of the combustion unit shall submit a monitoring plan in accordance with 40 CFR 74.61. For renewal application, submit an updated monitoring plan if applicable under 40 CFR 75.53(b).
- F. The following statement must be signed by the designated representative or alternate designated representative of the combustion source: "I certify that the data submitted under 40 CFR Part 74, Subpart C, reflects actual operations of the combustion source and has not been adjusted in any way."

Signature	Date
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STEP 7

Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.

Certification (for designated representative or alternate designated representative only)

I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name	Jeffrey R. Swartz	Title	Vice President, Power Generation Florida
Owner Company Name	Duke Energy Florida, Inc.		
Phone	(727) 820 – 5188	E-mail address	
Signature			Date

APPENDIX E

CAIR FORMS

Clean Air Interstate Rule (CAIR) Part

For more information, see instructions and refer to 40 CFR 96.121, 96.122, 96.221, 96.222, 96.321 and 96.322; and Rule 62-296.470, F.A.C.

This submission is: New Revised Renewal

STEP 1

Identify the source by plant name and ORIS or EIA plant code

Plant Name: Crystal River Plant	State: Florida	ORIS or EIA Plant Code: 628
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STEP 2

In column "a" enter the unit ID# for every CAIR unit at the CAIR source.

In columns "b," "c," and "d," indicate to which CAIR program(s) each unit is subject by placing an "X" in the column(s).

For new units, enter the requested information in columns "e" and "f."

a	b	c	d	e	f
Unit ID#	Unit will hold nitrogen oxides (NO _x) allowances in accordance with 40 CFR 96.106(c)(1)	Unit will hold sulfur dioxide (SO ₂) allowances in accordance with 40 CFR 96.206(c)(1)	Unit will hold NO _x Ozone Season allowances in accordance with 40 CFR 96.306(c)(1)	New Units Expected Commence Commercial Operation Date	New Units Expected Monitor Certification Deadline
1	X	X	X		
2	X	X	X		
4	X	X	X		
5	X	X	X		
CCC-1A	X	X	X	05/2018	08/2018
CCC-1B	X	X	X	05/2018	08/2018
CCC-2A	X	X	X	12/2018	03/2019
CCC-2B	X	X	X	12/2018	03/2019

Plant Name (from STEP 1)
Crystal River Plant

STEP 3

CAIR NO_x ANNUAL TRADING PROGRAM

Read the standard requirements.

CAIR Part Requirements.

- (1) The CAIR designated representative of each CAIR NO_x source and each CAIR NO_x unit at the source shall:
 - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.122 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
 - (ii) [Reserved];
- (2) The owners and operators of each CAIR NO_x source and each CAIR NO_x unit at the source shall have a CAIR Part included in the Title V operating permit issued by the DEP under 40 CFR Part 96, Subpart CC, and operate the source and the unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

- (1) The owners and operators, and the CAIR designated representative, of each CAIR NO_x source and each CAIR NO_x unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HH, shall be used to determine compliance by each CAIR NO_x source with the following CAIR NO_x Emissions Requirements.

NO_x Emission Requirements.

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x source and each CAIR NO_x unit at the source shall hold, in the source's compliance account, CAIR NO_x allowances available for compliance deductions for the control period under 40 CFR 96.154(a) in an amount not less than the tons of total NO_x emissions for the control period from all CAIR NO_x units at the source, as determined in accordance with 40 CFR Part 96, Subpart HH.
- (2) A CAIR NO_x unit shall be subject to the requirements under paragraph (1) of the NO_x Requirements starting on the later of January 1, 2009, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.170(b)(1) or (2) and for each control period thereafter.
- (3) A CAIR NO_x allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NO_x Requirements, for a control period in a calendar year before the year for which the CAIR NO_x allowance was allocated.
- (4) CAIR NO_x allowances shall be held in, deducted from, or transferred into or among CAIR NO_x Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FF and GG.
- (5) A CAIR NO_x allowance is a limited authorization to emit one ton of NO_x in accordance with the CAIR NO_x Annual Trading Program. No provision of the CAIR NO_x Annual Trading Program, the CAIR Part, or an exemption under 40 CFR 96.105 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR NO_x allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart EE, FF, or GG, every allocation, transfer, or deduction of a CAIR NO_x allowance to or from a CAIR NO_x unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NO_x unit.

Excess Emissions Requirements.

If a CAIR NO_x source emits NO_x during any control period in excess of the CAIR NO_x emissions limitation, then:

- (1) The owners and operators of the source and each CAIR NO_x unit at the source shall surrender the CAIR NO_x allowances required for deduction under 40 CFR 96.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AA, the Clean Air Act, and applicable state law.

Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the CAIR NO_x source and each CAIR NO_x unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the DEP or the Administrator.
 - (i) The certificate of representation under 40 CFR 96.113 for the CAIR designated representative for the source and each CAIR NO_x unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
 - (ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_x Annual Trading Program.
 - (iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NO_x Annual Trading Program or to demonstrate compliance with the requirements of the CAIR NO_x Annual Trading Program.
- (2) The CAIR designated representative of a CAIR NO_x source and each CAIR NO_x unit at the source shall submit the reports required under the CAIR NO_x Annual Trading Program, including those under 40 CFR Part 96, Subpart HH.

Plant Name (from STEP 1)
Crystal River Plant

**STEP 3,
Continued**

Liability.

- (1) Each CAIR NO_x source and each CAIR NO_x unit shall meet the requirements of the CAIR NO_x Annual Trading Program.
- (2) Any provision of the CAIR NO_x Annual Trading Program that applies to a CAIR NO_x source or the CAIR designated representative of a CAIR NO_x source shall also apply to the owners and operators of such source and of the CAIR NO_x units at the source.
- (3) Any provision of the CAIR NO_x Annual Trading Program that applies to a CAIR NO_x unit or the CAIR designated representative of a CAIR NO_x unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NO_x Annual Trading Program, a CAIR Part, or an exemption under 40 CFR 96.105 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_x source or CAIR NO_x unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

CAIR SO₂ TRADING PROGRAM

CAIR Part Requirements.

- (1) The CAIR designated representative of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall:
 - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.222 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
 - (ii) [Reserved];
- (2) The owners and operators of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall have a CAIR Part included in the Title V operating permit issued by the DEP under 40 CFR Part 96, Subpart CCC, for the source and operate the source and each CAIR unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

- (1) The owners and operators, and the CAIR designated representative, of each CAIR SO₂ source and each SO₂ CAIR unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HHH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HHH, shall be used to determine compliance by each CAIR SO₂ source with the following CAIR SO₂ Emission Requirements.

SO₂ Emission Requirements.

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall hold, in the source's compliance account, a tonnage equivalent in CAIR SO₂ allowances available for compliance deductions for the control period, as determined in accordance with 40 CFR 96.254(a) and (b), not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO₂ units at the source, as determined in accordance with 40 CFR Part 96, Subpart HHH.
- (2) A CAIR SO₂ unit shall be subject to the requirements under paragraph (1) of the Sulfur Dioxide Emission Requirements starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.270(b)(1) or (2) and for each control period thereafter.
- (3) A CAIR SO₂ allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the SO₂ Emission Requirements, for a control period in a calendar year before the year for which the CAIR SO₂ allowance was allocated.
- (4) CAIR SO₂ allowances shall be held in, deducted from, or transferred into or among CAIR SO₂ Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FFF and GGG.
- (5) A CAIR SO₂ allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO₂ Trading Program. No provision of the CAIR SO₂ Trading Program, the CAIR Part, or an exemption under 40 CFR 96.205 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR SO₂ allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart FFF or GGG, every allocation, transfer, or deduction of a CAIR SO₂ allowance to or from a CAIR SO₂ unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR SO₂ unit.

Excess Emissions Requirements.

If a CAIR SO₂ source emits SO₂ during any control period in excess of the CAIR SO₂ emissions limitation, then:

- (1) The owners and operators of the source and each CAIR SO₂ unit at the source shall surrender the CAIR SO₂ allowances required for deduction under 40 CFR 96.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AAA, the Clean Air Act, and applicable state law.

Plant Name (from STEP 1)
Crystal River Plant

**STEP 3,
Continued**

Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the CAIR SO₂ source and each CAIR SO₂ unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Department or the Administrator.
 - (i) The certificate of representation under 40 CFR 96.213 for the CAIR designated representative for the source and each CAIR SO₂ unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.213 changing the CAIR designated representative.
 - (ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HHH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HHH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR SO₂ Trading Program.
 - (iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR SO₂ Trading Program or to demonstrate compliance with the requirements of the CAIR SO₂ Trading Program.
- (2) The CAIR designated representative of a CAIR SO₂ source and each CAIR SO₂ unit at the source shall submit the reports required under the CAIR SO₂ Trading Program, including those under 40 CFR Part 96, Subpart HHH.

Liability.

- (1) Each CAIR SO₂ source and each CAIR SO₂ unit shall meet the requirements of the CAIR SO₂ Trading Program.
- (2) Any provision of the CAIR SO₂ Trading Program that applies to a CAIR SO₂ source or the CAIR designated representative of a CAIR SO₂ source shall also apply to the owners and operators of such source and of the CAIR SO₂ units at the source.
- (3) Any provision of the CAIR SO₂ Trading Program that applies to a CAIR SO₂ unit or the CAIR designated representative of a CAIR SO₂ unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR SO₂ Trading Program, a CAIR Part, or an exemption under 40 CFR 96.205 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR SO₂ source or CAIR SO₂ unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

CAIR NO_x OZONE SEASON TRADING PROGRAM

CAIR Part Requirements.

- (1) The CAIR designated representative of each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall:
 - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.322 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
 - (ii) [Reserved];
- (2) The owners and operators of each CAIR NO_x Ozone Season source required to have a Title V operating permit or air construction permit, and each CAIR NO_x Ozone Season unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the DEP under 40 CFR Part 96, Subpart CCCC, for the source and operate the source and the unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

- (1) The owners and operators, and the CAIR designated representative, of each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HHHH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HHHH, shall be used to determine compliance by each CAIR NO_x Ozone Season source with the following CAIR NO_x Ozone Season Emissions Requirements.

NO_x Ozone Season Emission Requirements.

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NO_x Ozone Season allowances available for compliance deductions for the control period under 40 CFR 96.354(a) in an amount not less than the tons of total NO_x emissions for the control period from all CAIR NO_x Ozone Season units at the source, as determined in accordance with 40 CFR Part 96, Subpart HHHH.
- (2) A CAIR NO_x Ozone Season unit shall be subject to the requirements under paragraph (1) of the NO_x Ozone Season Emission Requirements starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.370(b)(1),(2), or (3) and for each control period thereafter.
- (3) A CAIR NO_x Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NO_x Ozone Season Emission Requirements, for a control period in a calendar year before the year for which the CAIR NO_x Ozone Season allowance was allocated.
- (4) CAIR NO_x Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NO_x Ozone Season Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FFFF and GGGG.
- (5) A CAIR NO_x Ozone Season allowance is a limited authorization to emit one ton of NO_x in accordance with the CAIR NO_x Ozone Season Trading Program. No provision of the CAIR NO_x Ozone Season Trading Program, the CAIR Part, or an exemption under 40 CFR 96.305 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR NO_x Ozone Season allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart EEEE, FFFF or GGGG, every allocation, transfer, or deduction of a CAIR NO_x Ozone Season allowance to or from a CAIR NO_x Ozone Season unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NO_x Ozone Season unit.

Plant Name (from STEP 1)
Crystal River Plant

**STEP 3,
Continued**

Excess Emissions Requirements.

If a CAIR NO_x Ozone Season source emits NO_x during any control period in excess of the CAIR NO_x Ozone Season emissions limitation, then:
(1) The owners and operators of the source and each CAIR NO_x Ozone Season unit at the source shall surrender the CAIR NO_x Ozone Season allowances required for deduction under 40 CFR 96.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AAAAA, the Clean Air Act, and applicable state law.

Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the DEP or the Administrator.
(i) The certificate of representation under 40 CFR 96.313 for the CAIR designated representative for the source and each CAIR NO_x Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
(ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HHHH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HHHH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_x Ozone Season Trading Program.
(iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NO_x Ozone Season Trading Program or to demonstrate compliance with the requirements of the CAIR NO_x Ozone Season Trading Program.
(2) The CAIR designated representative of a CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall submit the reports required under the CAIR NO_x Ozone Season Trading Program, including those under 40 CFR Part 96, Subpart HHHH.

Liability.

(1) Each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit shall meet the requirements of the CAIR NO_x Ozone Season Trading Program.
(2) Any provision of the CAIR NO_x Ozone Season Trading Program that applies to a CAIR NO_x Ozone Season source or the CAIR designated representative of a CAIR NO_x Ozone Season source shall also apply to the owners and operators of such source and of the CAIR NO_x Ozone Season units at the source.
(3) Any provision of the CAIR NO_x Ozone Season Trading Program that applies to a CAIR NO_x Ozone Season unit or the CAIR designated representative of a CAIR NO_x Ozone Season unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NO_x Ozone Season Trading Program, a CAIR Part, or an exemption under 40 CFR 96.305 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_x Ozone Season source or CAIR NO_x Ozone Season unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

STEP 4

Certification (for designated representative or alternate designated representative only)

Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the CAIR source or CAIR units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name	Jeffrey R. Swartz	Title	Vice President, Power Generation Florida
Company Owner Name	Duke Energy Florida, Inc.		
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