Facility Name: **Atlanta Gas Light Company**
City: Ball Ground
County: Cherokee
AIRS #: 04-13-057-00036

Application #: TV-627834
Date Application Received: February 10, 2022
Permit No: 4924-057-0036-V-05-0

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Introduction

This narrative is being provided to assist the reader in understanding the content of referenced operating permit. Complex issues and unusual items are explained here in simpler terms and/or greater detail than is sometimes possible in the actual permit. The permit is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. and (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Facility Identification

1. Facility Name: Atlanta Gas Light Company – Cherokee LNG Plant

2. Parent/Holding Company Name

   Atlanta Gas Light Company (AGLC)

3. Previous and/or Other Name(s)

   Not Applicable

4. Facility Location

   12860 East Cherokee Drive,
   Ball Ground, Georgia 30107-4899

5. Attainment, Non-attainment Area Location, or Contributing Area

   Cherokee County is designated non-attainment area for ozone and attainment area for all other criteria pollutants.

B. Site Determination

There are no other facilities which could possibly be contiguous or adjacent and under common control.

C. Existing Permits

Table 1 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a comparative review of form A.6, Current Permits, of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office.

Table 1: List of Current Permits, Amendments, and Off-Permit Changes

Permit Number and/or Off-Permit Change	Date of Issuance/ Effectiveness	Purpose of Issuance
4924-057-0036-V-04-0	August 10, 2017	Title V Renewal Permit
4924-057-0036-V-04-1	October 22, 2021	Amendment to install and operate an LNG storage tank and associated liquefaction/vaporization equipment.

D. Process Description

1. SIC Codes(s)

4924

The SIC Code(s) identified above were assigned by EPD's Air Protection Branch for purposes pursuant to the Georgia Air Quality Act and related administrative purposes only and are not intended to be used for any other purpose. Assignment of SIC Codes by EPD's Air Protection Branch for these purposes does not prohibit the facility from using these or different SIC Codes for other regulatory and non-regulatory purposes.

Should the reference(s) to SIC Code(s) in any narratives or narrative addendum previously issued for the Title V permit for this facility conflict with the revised language herein, the language herein shall control; provided, however, language in previously issued narratives that does not expressly reference SIC Code(s) shall not be affected.

2. Description of Product(s)

This facility does not manufacture any products.

3. Overall Facility Process Description

Atlanta Gas Light Company (AGLC) operates three liquefied natural gas (LNG) peak shaving plants in Georgia, including Atlanta Gas Light Company – Cherokee LNG Plant (hereinafter facility). These plants serve the purpose of liquefaction and storage of natural gas during the spring, summer, and fall months followed by vaporization and distribution of the stored natural gas during the peak demand periods in the winter. These LNG stations operate numerous pieces of fuel-burning equipment fired exclusively by natural gas. The peak shaving LNG operation consists of three distinct operations: (1) Liquefaction, where pipeline natural gas is converted into LNG and placed into a storage tank, (2) Vaporization, where LNG is converted into a gas and inserted into the distribution system, and (3) Standby, where neither liquefaction nor vaporization are taking place.

Liquefaction
Natural gas received from the transmission pipeline is cooled to liquid phase through indirect contact with a mixed hydrocarbon refrigerant typically consisting of ethylene, isobutane, and propane. At the Cherokee facility, an 8,500-horsepower (hp) natural gas-fired turbine (ID No. T1) is used to compress the refrigerant gases before being fed to a series of heat exchangers in the "cold box" to refrigerate the vapor-phase natural gas below its boiling point at –260 °F and into the liquid phase. Prior to refrigeration, carbon dioxide scrubbers cleanse the natural gas stream to avoid freezing of impurities. A 10.6-MMBtu/hr regeneration heater (ID No.: RH1) is used to regenerate these scrubbers. The regeneration heater potentially operates at all times during liquefaction operations. The facility was permitted to operate another regeneration heater (ID No.: RH12) but has not been constructed this unit, and the facility has decided they no longer plan to install this emission unit. After refrigeration, LNG is drawn into large, insulated tanks for storage until natural gas is needed. LNG storage tanks are essentially unpressurized, cooled by the

evaporation of LNG, with natural gas vapor accumulating at the top of the tank. Boil-off gas compressors, which are driven by two 628-hp engines (ID Nos. C1 and C2), draw this vapor from the tank and compress the gas to the appropriate pressure for injection into the pipeline system.

Vaporization

When consumer demand for natural gas exceeds supply from the interstate pipeline system, LNG can be pumped from the storage tanks, vaporized and injected into the distribution system. At the Cherokee plant, the LNG pumps are driven by electric motors. These pumps deliver LNG to the vaporizers that heat the LNG. Six 48.2-MMBtu/hr Vaporizer Heaters (ID Nos: VH1 through VH6), three 50.2-MMBtu/hr Vaporizer Heaters (ID Nos. VH7 through VH9), and nine 57.9-MMBtu/hr Vaporizer Heaters (ID Nos. VH10 through VH18) heat a glycol/water solution which is the heat exchange fluid that is used to change the phase of natural gas from liquid to gas and raise the gas temperature to pipeline conditions at 60°F. According to the facility, the Vaporizer Heaters only operate during vaporization mode, which occurs at most 120 hours per year at the Cherokee plant. All of the heaters above fire exclusively on natural gas.

Auxiliary Equipment

The facility operates four 1,200-hp engine powered generators (ID Nos. G1 through G4), three 1,067-hp engine powered generators (ID Nos. G5 through G7), and two generator turbines (ID Nos.: GT1 and GT2) to generate baseload electricity for on-site consumption. These generators are utilized during LNG peak shaving operations to ensure a reliable power supply for pumps and compressors during liquefaction or vaporization. In addition, the facility utilizes a 1,475-hp emergency generator (ID No.: EG1) and a 400-hp engine powered generator (ID No.: EG) designated for emergency stand-by use only when the primary generators are inoperable.

The facility operates a 1.0-MMBtu/hr steam boiler (ID No. SB1) to generate steam for auxiliary purposes at the Cherokee Plant such as deicing pipes and valves. Also, a 350-hp engine (ID No. FP1) is maintained to drive a water pump for emergency fire suppression. All of the engines mentioned above fire exclusively on natural gas.

The facility expanded the LNG storage capacity at the Cherokee LNG Plant, adding one new LNG tank, one electric powered boil-off compressor, and one electric powered refrigerant compressor. Additionally, AGLC plans to decommission three currently existing emission units: (1) compressor turbine (ID No.: T1), (2) regeneration heater (ID No.: RH1), and (3) emergency generator (ID No.: EG). The removal of these three emission units is required once construction of the new emission units is complete.

4. Overall Process Flow Diagram

The facility provided a process flow diagram in their Title V permit application.

E. Regulatory Status

1. PSD/NSR

Cherokee County is included in Rule 391-3-1-.03(8)(c)14 "Additional Provisions for Ozone Non-Attainment Areas" which defines a "major source" as any stationary source that emits or has the potential to emit at least 100 tons per year of VOC or NOx. Potential VOC emissions are less than 100 tons per year while potential NOx emissions from this facility exceeds 100 tons per year. Therefore, this facility is a major source under nonattainment area new source review (NAA NSR) for NOx emissions.

LNG facilities are not one of the 28 named categories where the PSD major source threshold is 100 tpy. Part of this facility, however, is one of the 28 named categories: fossil-fuel fired boilers (or combinations) totaling greater than 250 MMBtu/hr. The existing fuel-burning equipment (i.e., vaporizer heaters, regeneration heater, and steam boiler) combined exceeds 250 MMBtu/hr. Currently, the facility-wide potential emissions are less than 250 tpy for all PSD regulated pollutants, and the potential emissions from the fuel burning equipment is less than 100 tpy for all PSD regulated pollutants. Therefore, the facility is considered a minor source under PSD regulations.

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Yes			✓
PM_{10}	Yes			✓
$PM_{2.5}$	Yes			✓
SO_2	Yes			✓
VOC	Yes			✓
NO_x	Yes	✓		
CO	Yes	✓		
TRS	n/a			
H_2S	n/a			
Individual HAP	Yes			✓
Total HAPs	Yes			✓

3. MACT Standards

The facility is a minor source for individual and combination of HAPs and is subject to NESHAP 40 CFR 63 Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* (RICE), which applies to stationary reciprocating combustion engines at a major or area source of HAP emissions, excluding those RICE being tested at a test cell/stand.

40 CFR 63 Subpart HHH – *National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities*, Subpart YYYY – *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines*, and Subpart JJJJJJ – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* are potentially applicable. However, the facility is not currently subject to any of these MACT standards. If the facility becomes a major source of HAPs or fires any fuel other than natural gas into emission units listed in the equipment listing, the facility could be subject to each of these MACT standards.

4. Program Applicability (AIRS Program Codes)

Program Code	Applicable (y/n)
Program Code 6 - PSD	no
Program Code 8 – Part 61 NESHAP	no
Program Code 9 - NSPS	yes
Program Code M – Part 63 NESHAP	yes
Program Code V – Title V	yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

None applicable.

B. Applicable Rules and Regulations

Not applicable.

C. Compliance Status

The facility has not indicated any noncompliance issues in their Title V permit application.

D. Permit Conditions

None applicable.

III. Regulated Equipment Requirements

A. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
VH1	Vaporizer Heater No. 1 Stone-Johnston Corp. Model PFTA1500-4L60W Capacity: 48.4 MMBtu/hr Installed in 1987	40 CFR 52.21 Avoidance 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None
VH2	Vaporizer Heater No. 2 Stone-Johnston Corp. Model PFTA1500-4L60W Capacity: 48.4 Installed in 1987	40 CFR 52.21 Avoidance 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None
VH3	Vaporizer Heater No. 3 Stone-Johnston Corp. Model PFTA1500-4L60W Capacity: 48.4 MMBtu/hr Installed in 1987	40 CFR 52.21 Avoidance 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None
VH4	Vaporizer Heater No. 4 Stone-Johnston Corp. Model PFTA1500-4L60W Capacity: 48.4 MMBtu/hr Installed in 1987	40 CFR 52.21 Avoidance 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None
VH5	Vaporizer Heater No. 5 Stone-Johnston Corp. Model PFTA1500-4L60W Capacity: 48.4 MMBtu/hr Installed in 1987	40 CFR 52.21 Avoidance 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None
VH6	Vaporizer Heater No. 6 Stone-Johnston Corp. Model PFTA1500-4L60W Capacity: 48.4 MMBtu/hr Installed in 1987	40 CFR 52.21 Avoidance 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None
VH7	Vaporizer Heater No. 7 Stone-Johnston Corp. Model PFTE1500-G460W Capacity: 50.2 MMBtu/hr Installed in November 1996	40 CFR 52.21 Avoidance 40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None
VH8	Vaporizer Heater No. 8 Stone-Johnston Corp. Model PFTE1500-G460W Capacity: 50.2 MMBtu/hr Installed in November 1996	40 CFR 52.21 Avoidance 40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None
VH9	Vaporizer Heater No. 9 Stone-Johnston Corp. Model PFTE1500-G460W Capacity: 50.2 MMBtu/hr Installed in November 1996	40 CFR 52.21 Avoidance 40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)1	n/a	None

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
VH10	Vaporizer Heater No. 10 Stone-Johnston Corp. Model PFTA1500-4G60WG Capacity: 57.9 MMBtu/hr Installed in 2011	40 CFR 52.21 Avoidance 40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
VH11	Vaporizer Heater No. 11 Stone-Johnston Corp. Model PFTA1500-4G60WG Capacity: 57.9 MMBtu/hr Installed in 2011	40 CFR 52.21 Avoidance 40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
VH12	Vaporizer Heater No. 12 Stone-Johnston Corp. Model PFTA1500-4G60WG Capacity: 57.9 MMBtu/hr Installed in 2011	40 CFR 52.21 Avoidance 40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
VH13	Vaporizer Heater No. 13 (Glycol Boiler) 58 MMBtu/hr	40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
VH14	Vaporizer Heater No. 14 (Glycol Boiler) 58 MMBtu/hr	40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
VH15	Vaporizer Heater No. 15 (Glycol Boiler) 58 MMBtu/hr	40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
VH16	Vaporizer Heater No. 16 (Glycol Boiler) 58 MMBtu/hr	40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
VH17	Vaporizer Heater No. 17 (Glycol Boiler) 58 MMBtu/hr	40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
VH18	Vaporizer Heater No. 18 (Glycol Boiler) 58 MMBtu/hr	40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll)	n/a	None
RH1	Regeneration Heater No. 1 CHF Model D-93934 Capacity: 10.6 MMBtu/hr Installed in 1994	40 CFR 52.21 Avoidance 40 CFR 60 Subpart A 40 CFR 60 Subpart Dc 391-3-1-.02(2)(d) 391-3-1-.02(2)(yy)1	n/a	None

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
C1	Engine for Boil-off Compressor No. 1 Waukesha Model F2895GSIU Capacity: 4.86 MMBtu/hr Output: 628 Hp Installed in June 1988	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	CC01	Three-way NSCR Catalytic Converter
C2	Engine for Boil-off Compressor No. 2 Waukesha Model F2895GSIU Capacity: 4.86 MMBtu/hr Output: 628 Hp Installed in June 1988	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	CC02	Three-way NSCR Catalytic Converter
T1	Compressor Turbine Ruston Model Tornado Capacity: 63.31 MMBtu/hr Output: 8,500 Hp Installed in June 1988	40 CFR 52.21 Avoidance 40 CFR 60 Subpart A 40 CFR 60 Subpart GG 391-3-1-.02(2)(b)1 391-3-1-.02(2)(g)2. 391-3-1-.02(2)(yy)1	n/a	None
G1	Generator Engine No. 1 Waukesha Model L7042GU Capacity: 10.0 MMBtu/hr Output: 1,200 Hp Installed in June 1988	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	CG01	Three-way NSCR Catalytic Converter
G2	Generator Engine No. 2 Waukesha Model L7042GU Capacity: 10.0 MMBtu/hr Output: 1,200 Hp Installed in June 1988	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	CG02	Three-way NSCR Catalytic Converter
G3	Generator Engine No. 3 Waukesha Model L7042GU Capacity: 10.0 MMBtu/hr Output: 1,200 Hp Installed in June 1988	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	CG03	Three-way NSCR Catalytic Converter
G4	Generator Engine No. 4 Waukesha Model L7042GU Capacity: 10.0 MMBtu/hr Output: 1,200 Hp Installed in June 1988	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	CG04	Three-way NSCR Catalytic Converter
G5	Generator Engine No. 5 Waukesha Model L7042G Capacity: 8.0 MMBtu/hr Output: 1,067 Hp Installed in 2007	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	G5C	Three-way NSCR Catalytic Converter

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
G6	Generator Engine No. 6 Waukesha Model L7042G Capacity: 8.0 MMBtu/hr Output: 1,067 Hp Installed in 2011	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	G6C	Three-way NSCR Catalytic Converter
G7	Generator Engine No. 7 Waukesha Model L7042G Capacity: 8.0 MMBtu/hr Output: 1,067 Hp Installed in 2011	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(yy)1 40 CFR 64	G7C	Three-way NSCR Catalytic Converter
GT1	**Generator Turbine No. 1** **Solar Turbine Mars 100** **120.5 MMBtu/hr**	**40 CFR 60 Subpart A** **40 CFR 60 Subpart KKKK** **391-3-1-.02(2)(b)** **391-3-1-.02(2)(g)** **391-3-1-.02(2)(mmm)**	**n/a**	**None**
GT2	**Generator Turbine No. 2** **Solar Turbine Mars 100** **120.5 MMBtu/hr**	**40 CFR 60 Subpart A** **40 CFR 60 Subpart KKKK** **391-3-1-.02(2)(b)** **391-3-1-.02(2)(g)** **391-3-1-.02(2)(mmm)**	**n/a**	**None**
EG	Emergency Generator Waukesha Model F2895GU Capacity: 3.0 MMBtu/hr Output: 400 Hp Installed in 1988	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1 391-3-1-.02(2)(g)	n/a	None
EG1	**Emergency Generator No. 1** **1,475 horsepower** **10.33 MMBtu/hr**	**40 CFR 60 Subpart A** **40 CFR 60 Subpart JJJJ** **40 CFR 63 Subpart A** **40 CFR 63 Subpart ZZZZ** **391-3-1-.02(2)(b)** **391-3-1-.02(2)(g)**	**n/a**	**None**
FP1	Fire Pump Engine No. 1 Waukesha Model F3521GU Capacity: 2.86 MMBtu/hr Output: 350 Hp Installed in 1988	40 CFR 52.21 Avoidance 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ 391-3-1-.02(2)(b)1	n/a	None
SB1	Steam Boiler Cleaver Brooks Model CBH-700-25 Capacity: 1.0 MMBtu/hr	40 CFR 52.21 Avoidance 391-3-1-.02(2)(d)2 391-3-1-.02(2)(g)	n/a	None

* Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards are intended as a compliance tool and may not be definitive.

Table 3-A

ID No.	Description	Make	NOx Emission Limit	Operating Limit
T1	Compressor Turbine	Ruston Tornado	90 ppmv @ 15% O2	N/A
C1	Engine for Boil-off Compressor No. 1	Waukesha	139 ppmv @ 15% O_2	N/A
C2	Engine for Boil-off Compressor No. 2	Waukesha		
G1	Generator Engine No. 1	Waukesha	139 ppmv @ 15% O_2	140 million cubic feet of natural gas per year
G2	Generator Engine No. 2	Waukesha		
G3	Generator Engine No. 3	Waukesha		
G4	Generator Engine No. 4	Waukesha		
SB1	Steam Boiler	Cleaver-Brooks	0.10 lb/hr	N/A
EG	Emergency Generator	Waukesha	9.60 lbs/hr	200 hrs/yr
FP1	Fire Pump Engine No. 1	Waukesha	8.40 lbs/hr	125 hrs/yr
VH1	Vaporizer Heater No. 1	Stone-Johnston	174 lbs per million cubic feet of natural gas	80 million cubic feet of natural gas per year
VH2	Vaporizer Heater No. 2	Stone-Johnston		
VH3	Vaporizer Heater No. 3	Stone-Johnston		
VH4	Vaporizer Heater No. 4	Stone-Johnston		
VH5	Vaporizer Heater No. 5	Stone-Johnston		
VH6	Vaporizer Heater No. 6	Stone-Johnston		
VH7	Vaporizer Heater No. 7	Stone-Johnston		
VH8	Vaporizer Heater No. 8	Stone-Johnston		
VH9	Vaporizer Heater No. 9	Stone-Johnston		
RH1	Regeneration Heater No. 1	CHF	1.21 lbs/hr	N/A
G5	Generator Engine No. 5	Waukesha	80 ppmv@ 15% O_2	N/A
G6	Generator Engine No. 6	Waukesha	80 ppmv@ 15% O_2	47.1 million cubic feet of natural gas per year
G7	Generator Engine No. 7	Waukesha		
VH10	Vaporizer Heater No. 10	Stone-Johnston	30 ppmv@ 3% O_2 during ozone season	85.2 million cubic feet of natural gas per year
VH11	Vaporizer Heater No. 11	Stone-Johnston		
VH12	Vaporizer Heater No. 12	Stone-Johnston		

B. Equipment & Rule Applicability

Emission and Operating Caps:

Table 3-A and Conditions 3.2.1 through 3.24 of this Title V Renewal Permit contain various NOx emission limits and operating limits for the entire facility. Most of these limitations are for PSD and NAA NSR avoidance; some of them are set per the reasonably available control technology (RACT) requirements specified in Georgia Rules for Air Quality 391-3-1-.02(2)(yy). In Permit No. 4924-057-0036-V-03-3, the facility proposed to lower the NOx emission limit for Turbine T1 from 128 ppmv@15% O2 to 90 ppmv@15% O2. The facility also proposed to remove the annual hourly operating limits for Turbine T1, Engines C1 and C2, and Heater RH1 because of an increase in demand of truck-loaded LNG. The changes requested in Application No. TV-40373 did not involve any physical change or change in the method of operation of any equipment, and resulted in minimal change in facility-wide NOx PTE.

Rules and Regulations Assessment:

40 CFR 60 Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Subpart Dc applies to steam generating units which were constructed after June 9, 1989, that have a maximum design heat input rate between 10 and 100 MMBtu/hr. Regeneration Heater (Unit ID: RH1) and Vaporizer Heaters (Unit IDs: VH7 through VH18) are subject to Subpart Dc. Because these units fire natural gas only, they are only subject to monthly fuel consumption recordkeeping requirements and initial notification of construction and startup.

40 CFR 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Subpart Kb applies to storage vessels with a capacity greater than or equal to 75 cubic meters that stores volatile organic liquids (VOL) which were constructed after July 23, 1984. The Division has determined that Subpart Kb does not apply to LNG tanks. In the 10/15/03 Federal Register, EPA finalized changes to Subpart Kb, exempting tanks storing volatile organic liquid with vapor pressures of less than 3.5kPa.

40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines

Subpart GG applies to turbines equal to or greater than 10 MMBtu/hr that are constructed after October 3, 1977. This subpart applies to compressor turbine (Unit ID: T1) but does not apply to Generator Turbines (Unit IDs: GT1 and GT2), because these turbines are subject to Subpart KKKK [40 CFR 60.4305(b)].

40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Subpart JJJJ regulates emissions from spark ignition internal combustion engines where construction commences after June 12, 2006, and, for emergency generators, where the engine is manufactured on or after January 1, 2009. Because Emergency Generator No. 1 (EG1) will be manufactured after 2009, this rule applies. The Permittee will comply with the emission standards by purchasing a certified engine. Emergency generator with ID No. EG and fire pump engine with ID No. FP1 each have an output capacity less than 500 Hp and were both installed in 1988, therefore, they are not subject to NSPS Subpart JJJJ. Generator engines G1 through G4 were installed prior to June 2006, therefore, they are exempt from the requirements of subpart JJJJ. Generator engines with ID Nos. G5 through G7 were installed on or after 2007 and are potentially subject to NSPS Subpart JJJJ. However, the Division has determined that none of them is subject to this Subpart for the following reasons:

- According to the facility's senior environmental specialist, Mr. Gregory Jones, Generator Engine G5 is a 0-hour reconditioned engine, which was originally built in December 1990, and the re-conditioned date stamped on it is December 2007. The purchase order (PO) price was USD$575,626.63 dated May 21, 2007. The cost of a new engine of this model was USD$908,733.00 dated January 30, 2007. The manufacturer did not disclose the cost associated with the reconditioning. According to the definition of Date of Manufacture in 40 CFR 60.4248, for reconstructed engines, date of manufacture means the date the engine was originally produced, except that reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. Since

the PO price is less than 75 percent of the cost of a new engine, the reconditioning cost would not exceed 75 percent of the cost of a new engine. Therefore, the manufactured date for this engine is still December 1990, and it is not subject to NSPS Subpart JJJJ.

- According to the narrative that explained 502(b)(10) Permit No. 4924-057-0036-V-02-2, Engines G6 and G7 were manufactured in 1989 and are being rebuilt. Similarly, the cost of each rebuilt engine is less than 75 percent of the cost of a new engine. Therefore, the manufactured date for both engines is still 1989, and they are not subject to NSPS Subpart JJJJ.

40 CFR 60 Subpart KKKK – Standards of Performance for Stationary Combustion Turbines

Subpart KKKK applies to turbines equal to or greater than 10 MMBtu/hr that are constructed after February 18, 2005. Generator Turbine Nos. 1 and 2 (GT1 and GT2) are subject to this rule. The Permittee will conduct performance tests annually to show compliance with the NOx limit. The frequency of the NOx test may be reduced to every two years if the results are less than 75% of the allowable. The Permittee has elected to show compliance with the fuel sulfur limit by burning natural gas exclusively which has potential emission of less than 0.060 lb SO_2/MMBtu.

40 CFR 60 Subpart OOOOa – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015

Subpart OOOOa regulates VOC and SO_2 emissions from affected facilities in the crude oil and natural gas production source category that commence construction, modification, or reconstruction after September 18, 2015. "Crude Oil and Natural Gas Production source category" is defined in 40 CFR 60.5430a. For natural gas production and processing, "the point of custody transfer to the natural gas transmission and storage segment" is not included in the source category. Because Atlanta Gas Light – Cherokee LNG is after the custody transfer, it is not subject to Subpart OOOOa.

40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The engines for boil-off compressors (Unit IDs: C1 and C2), the generator engines (Unit IDs: G1 through G7), the emergency generators (Unit IDs: EG and EG1), and the fire pump engine (Unit ID: FP1) are all subject to 40 CFR 63 Subpart ZZZZ. Please refer to the narrative associated with Title V permit No. 4924-057-0036-V-03-0 for further details.

Subpart ZZZZ regulates emissions from reciprocating internal combustion engines at major and area sources of HAPs. This facility is an area source of HAP emissions. Because EG1 will be constructed after June 12, 2006, it is considered a new engine. In accordance with 40 CFR 63.6590(c), compliance with Subpart ZZZZ for the emergency generator will be shown by showing compliance with 40 CFR 60 Subpart JJJJ.

40 CFR 63 Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Subpart JJJJJJ (Boiler GACT) regulates emissions from boilers located at an area source of HAP emissions. The Boiler GACT lists specific classes of boilers that are not subject to this subpart in 40 CFR 63.11195 including gas-fired boilers in paragraph (e). Regeneration Heater (Units ID: RH1), steam boiler (Unit ID: SB1), and Vaporizer Heaters (Unit IDs: VH1 through VH18) will exclusively burn natural gas. Therefore, they will not be subject to this subpart.

391-3-1-.02(2)(b) – Visible Emissions

Rule (b) limits the opacity of visible emissions from any air contaminant source that is subject to some other emission limitation under 391-3-1-.02(2) unless the source is subject to another opacity standard in 391-3-1-.02. Under Rule (b), the opacity of visible emissions from regulated sources may not exceed 40 percent under this general visible emission standard. Turbine (Unit ID: T1), Boil-off Compressors (Unit IDs: C1 and C2), Generator Engines (Unit IDs: G1 through G7), Generator Turbine (Unit IDs: GT1 and GT2), Fire Pump (Unit ID: FP1), and Emergency Generators (Unit IDs: EG and EG1) are subject to Rule (b). These units will burn natural gas exclusively so visible emissions are expected to be far below the Rule (b) limit of 40%.

391-3-1-.02(2)(d) – Fuel-Burning Equipment

Rule (d) limits emission of particulate matter from sources that meet the definition of "fuel-burning equipment". The steam boiler (Unit ID: SB1), Regeneration Heaters (Unit ID: RH1), and Vaporizer Heaters (Unit IDs: VH1 through VH18) meet this definition and, therefore, are subject to Rule (d). Since all the boilers fire exclusively on natural gas, and natural gas is a clean fuel, their PM emissions are expected to be minimal; therefore, compliance with the GA Rule (d) limits is expected. Rule (d) also limits the opacity of emissions from these emission units to 20 percent except for one six minute period per hour of not more than 27 percent opacity.

391-3-1-.02(2)(g) – Sulfur Dioxide

Rule (g) applies to all "fuel burning" sources. This rule limits the sulfur content of fuel. All of the emission units at this facility burn natural gas exclusively which easily complies with Rule (g).

391-3-1-.02(2)(yy) – Emissions of Nitrogen Oxides from Major Sources

Rule (yy) requires the implementation of NOx RACT for emission units located in Cherokee County at facilities which have potential NOx emissions exceeding 25 tons per year. This facility has NOx emissions exceeding 25 tons per year and is potentially subject to this rule. This rule does not apply to emission units subject to Rules (lll) or (mmm) or units with potential NOx emissions less than 1 ton per year. Please refer to the narrative associated with Title V permit No. 4924-057-0036-V-03-0 for the RACT plan.

391-3-1-.02(2)(lll) – NOx Emissions From Fuel-Burning Equipment

Rule (lll) limits the emissions of NOx from stationary sources in certain counties in the metropolitan Atlanta area during the ozone season. Cherokee County is one of the listed counties in the provisions. The rule applies to fuel burning equipment brought onto the facility on or after May 1, 1999 with a heat input greater than or equal to 10 MMBtu. The Vaporizer Heaters (Unit IDs: VH10 through VH18) are subject to Rule (lll).

391-3-1-.02(2)(mmm) – NOx Emissions from Stationary Gas Turbines and Stationary Engines used to Generate Electricity

Rule (mmm) limits the emissions of NOx from stationary gas turbines and stationary engines used to generate electricity in certain counties in the metropolitan Atlanta area during the ozone season. Cherokee County is one of the listed counties in the rule. Generator Turbine Nos. 1 and 2 (GT1 and GT2) are subject to Rule (mmm). Only Engines G1 through G7 and EG are potentially subject to this rule. These units are not subject to Rule (mmm) since they will be subject to Rule (yy). Emergency Generator No. 1 (EG1), however, is limited to 200 hours per year of exclusively emergency use, so it is exempt from the limit in the rule.

391-3-1-.02(2)(rrr) – NOx Emissions from Small Fuel-Burning Equipment

Rule (rrr) limits the emissions of NOx from fuel-burning equipment in certain counties in the metropolitan Atlanta. This rule, however, exempts fuel-burning equipment subject to Rule (lll). The Vaporizer Heaters Nos. 13 through 18 (VH13 through VH18) are subject to Rule (lll), therefore, they are not subject to Rule (rrr). It also exempts emission units in compliance with 391-3-1-.02(2)(yy).

C. Permit Conditions

Condition 3.2.1 limits the fuel fired in all equipment to natural gas only. Old Condition 3.3.12 has been removed and merged into Condition 3.2.1.

Condition 3.2.2 establishes the NOx emission limits based on RACT, PSD, and Georgia Air Quality Control Rules. Old Condition 3.4.8 has been removed and included in Condition 3.2.2.j. References to the regeneration heater (RH2) have been removed.

Old Condition 3.2.3 has been removed and merged with New Condition 3.2.4.

Old Condition 3.2.4 becomes New Condition 3.2.3 and establishes fuel consumption limitations.

Old Condition 3.2.5 becomes New Condition 3.2.4 and establishes NSR avoidance limits for the hours of operation for specific emission units in order to avoid PSD review. References to the regeneration heater (RH2) have been removed.

Condition 3.3.1 requires compliance with 40 CFR 60 Subparts A and Dc for Vaporizer Heaters (VH7 through VH18) and the regeneration heater (RH1). Old Condition 3.3.11 has been removed and merged into Condition 3.3.1. References to the regeneration heater (RH2) have been removed.

Conditions 3.3.2 and 3.3.3 establish compliance with 40 CFR 60 Subpart GG for compressor turbine (T1).

Conditions 3.3.4 through 3.3.10 address the requirements of 40 CFR 63 Subpart ZZZZ. Old Condition 3.3.18 has been removed and merged into Condition 3.3.4.

Conditions 3.3.11 through 3.3.14 contain NSPS Subpart KKKK requirements for Generator Turbine Nos. 1 and 2 (GT1 and GT2). Condition 3.3.11 is the general applicability. Condition 3.3.12 is the NOx limit. Condition 3.3.13 is the fuel sulfur limit. Condition 3.3.14 requires operating to minimize emissions at all times. Old Conditions 3.3.13 through 3.3.16 have become New Conditions 3.3.11 through 3.3.14, respectively.

Conditions 3.3.15 through 3.3.18 contain the NSPS Subpart JJJJ requirements for Emergency Generator No. 1 (EG1). Condition 3.3.15 requires compliance with Subpart JJJJ provisions. Condition 3.3.16 establishes NOx, VOC, and CO emission limits. Condition 3.3.17 details operational limitations for maintenance checks and readiness testing on the emergency generator. Condition 3.3.18 requires the Permittee to operate EG1 per the manufacturer's written instructions. Old conditions 3.3.17, 3.3.19, 3.3.20, and 3.3.21 have become new conditions 3.3.15, 3.3.16, 3.3.17 and 3.3.18, respectively.

Condition 3.4.1 establishes visible emissions limitations per Georgia Rule (b). Old Condition 3.4.5 has been removed and merged into condition 3.4.1.

Condition 3.4.2 and 3.4.3 establish particulate matter and fly ash emission limitations for the steam boiler, regeneration heaters, and vaporizer heaters per Georgia Rule (d). Old Condition 3.4.7 has been removed and merged into Condition 3.4.2. References to the regeneration heater (RH2) have been removed from Condition 3.4.3.

Condition 3.4.4 requires employment of the RACT plan to establish compliance with Georgia Rule (yy).

Condition 3.4.5 contains Rule (g) requirements. Old Condition 3.4.6 has become new Condition 3.4.5. References to the regeneration heater (RH2) have been removed.

Condition 3.4.6 contains the Rule (mmm) requirements for Generator Turbine Nos. 1 and 2 (GT1 and GT2). Old Condition 3.4.9 has become new Condition 3.4.6.

Condition 3.4.7 restricts operation of Emergency Generator No. 1 (EG1) to avoid the requirements of Rule (mmm). Old Condition 3.4.10 has become new Condition 3.4.7.

New Condition 3.5.1 requires the Permittee to decommission the compressor turbine (ID No.: T1), regeneration heater (ID No.: RH1), and emergency generator (ID No.: EG) once construction of the generator turbines (ID Nos.: GT1 and GT2) and the new emergency generator (ID No.: EG1) is complete.

IV. Testing Requirements (with Associated Record Keeping and Reporting)

A. General Testing Requirements

The permit includes a requirement that the Permittee conduct performance testing on any specified emission unit when directed by the Division. Additionally, a written notification of any performance test(s) is required 30 days (or sixty (60) days for tests required by 40 CFR Part 63) prior to the date of the test(s) and a test plan is required to be submitted with the test notification. Test methods and procedures for determining compliance with applicable emission limitations are listed and test results are required to be submitted to the Division within 60 days of completion of the testing.

Old Condition 4.1.5 has been removed and merged in with Condition 4.1.3 to include Method 19 testing for concentration conversions where applicable.

B. Specific Testing Requirements

Condition 4.2.1 requires the Permittee conduct annual performance testing on Boil-off Compressors and Generator Engines.

Condition 4.2.2 requires testing be conducted on the Compressor Turbine at intervals of 24 months or less.

Condition 4.2.3 establishes initial and annual NOx testing on Generator Turbine Nos. 1 and 2 per Subpart KKKK.

V. Monitoring Requirements

A. General Monitoring Requirements

Condition 5.1.1 requires that all continuous monitoring systems required by the Division be operated continuously except during monitoring system breakdowns and repairs. Monitoring system response during quality assurance activities is required to be measured and recorded. Maintenance or repair is required to be conducted in an expeditious manner.

B. Specific Monitoring Requirements

Condition 5.2.1 requires the Permittee to install, calibrate, maintain, and operate non-resettable hour meters on the specified emission units. Old Condition 5.2.6 has been removed and merged into Condition 5.2.1. References to the regeneration heater (RH2) have been removed from Condition 5.2.1.b.

Condition 5.2.2 requires the Permittee to install, calibrate, maintain, and operate monitoring devices on equipment as specified by the Division. This condition has been modified to include the recently added heaters. References to the regeneration heater (RH2) have been removed from Condition 5.2.2.e.

Condition 5.2.3 requires monitoring of nitrogen oxides emissions from specific vaporizer heaters during ozone season. Old Condition 5.2.7 has been removed and merged into Condition 5.2.3. References to the regeneration heater (RH2) have been removed.

Condition 5.2.4 establishes pollutant specific emission units subject to the CAM rule.

Condition 5.2.5 establishes the performance criteria for the NOx emissions from the engines for boil-off compressors.

Condition 5.2.6 contains monitoring conditions for Generator Turbine Nos. 1 and 2 (GT1 and GT2). Old Condition 5.2.8 has become Condition 5.2.6.

C. Compliance Assurance Monitoring (CAM)

Under 40 CFR 64, the Compliance Assurance Monitoring Regulations (CAM), facilities are required to prepare and submit monitoring plans for certain emission units with the Title V application. Each emission unit controlled by a control device that "has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source," as defined by 40 CFR §64.2(a)(3) is subject to CAM.

Permit conditions addressing CAM requirements are carried over from the previous Title V renewal permit because CAM still applies due to the fact that 40 CFR 63 Subpart ZZZZ applicable provisions are not more stringent. The facility does not fall under 40 CFR 64.2(b)(i) which exempts from CAM equipment subject to “emission limitations or standards proposed by the [EPA] Administrator after November 15, 1990, pursuant to section 111 or 112 of the Act.”

VI. Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The Permit contains general requirements for the maintenance of all records for a period of five years following the date of entry and requires the prompt reporting of all information related to deviations from the applicable requirements. Records, including identification of any excess emissions, exceedances, or excursions from the applicable monitoring triggers, the cause of such occurrence, and the corrective action taken, are required to be kept by the Permittee and reporting is required on a semiannual basis.

Conditions 6.1.7.b.vi and 6.1.7.d.i have been modified to remove reference to the regeneration heater (RH2).

B. Specific Record Keeping and Reporting Requirements

Condition 6.2.1 requires the use of hour meters to determine and record the twelve-month rolling total of the operating hours for the fire pump (FP1) and emergency generator (EG).

Condition 6.2.2 requires the use of natural gas consumption meters to determine the volume of natural gas burned as specified in Conditions 6.2.2.a through 6.2.2.e.

Condition 6.2.3 contains report specifications for the semiannual report submittal upon inspection or at the request of the Division.

Condition 6.2.4 establishes the natural gas sulfur content monitoring, record keeping, and reporting requirements.

Condition 6.2.5 requires the Permittee keep record of all tune-ups required by Condition 3.4.4.d.

Conditions 6.2.6 and 6.2.7 require the Permittee to keep and maintain record as specified. Condition 6.2.6 has been modified to include amendments made to Subpart ZZZZ.

Condition 6.2.8 contains specific record keeping requirements for Emergency Generator (EG) and Fire Pump Engine (FP1) per §63.6655(f).

Condition 6.2.9 requires the Permittee evaluate the status of existing non-emergency 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP every 12 months per Subpart ZZZZ.

Conditions 6.2.10 and 6.2.11 require records of monthly and 12-consecutive month hours of operation for recently added emission units included in Permit Amendment No. 4924-057-0036-V-04-1. These records are to show compliance with Condition 3.2.5. References to the regeneration heater (RH2) have been removed from Conditions 6.2.10 and 6.2.11.

Condition 6.2.12 requires a notification for start of construction and startup of recently added emission units included in Permit Amendment No. 4924-057-0036-V-04-1. References to the regeneration heater (RH2) have been removed.

Old Condition 6.2.13 was removed due to duplication of Condition 6.2.2.e.

Old Condition 6.2.14 becomes New Condition 6.2.13 and contains the NSPS Subpart KKKK requirement to submit a current, valid purchase contract, tariff sheet or transportation contract for fuel sulfur.

Old Conditions 6.2.15 and 6.2.16 become New Conditions 6.2.14 and 6.2.15 and contain NSPS Subpart JJJJ requirements for Emergency Generator No. 1 (EG1). Condition 6.2.14 requires submittal of annual hours of operation. Condition 6.2.15 contains certain records that must be kept.

VII. Specific Requirements

A. Operational Flexibility

- None applicable

B. Alternative Requirements

- None applicable.

C. Insignificant Activities

See Permit Application on GEOS website.
See Attachment B of the permit

D. Temporary Sources

- None applicable.

E. Short-Term Activities

- None applicable.

F. Compliance Schedule/Progress Reports

- None applicable.

G. Emissions Trading

- None applicable.

H. Acid Rain Requirements

- None applicable.

I. Stratospheric Ozone Protection Requirements

- None applicable.

None applicable.

J. Pollution Prevention

- None applicable.

K. Specific Conditions

- None applicable.

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

Template Condition 8.14.1 was updated in September 2011 to change the default submittal deadline for Annual Compliance Certifications to February 28.

Template Condition Section 8.27 was updated in August 2014 to include more detailed, clear requirements for emergency generator engines currently exempt from SIP permitting and considered insignificant sources in the Title V permit.

Template Condition Section 8.28 was updated in August 2014 to more clearly define the applicability of the Boiler MACT or GACT for major or minor sources of HAP.

Addendum to Narrative

The 30-day public review started on month day, year and ended on month day, year. Comments were/were not received by the Division.

//If comments were received, state the commenter, the date the comments were received in the above paragraph. All explanations of any changes should be addressed below.//